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Volume No. 3

EXPLANATORY NOTES
for
DEPARTMENT OF AGRICULTURE
BUDGET ESTIMATES
Fiscal Year
1946

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WHITE PINE BLISTER RUST CONTROL

Appropriation Act, 1945	\$2,264,026
Budget estimate, 1946	<u>4,250,000</u>
Change for 1946:	
Overtime decrease	-340,159
Increase	<u>+2,326,133</u>
	<u>+1,985,974</u>

PROJECT STATEMENT

Project	1944	1945 :(estimated):	1946 :(estimated):	Increase or decrease
1. Leadership, coordi- nation, and technical direction of white pine blister rust con- trol (Entomology and Plant Quarantine) ..	\$437,266:	\$451,000:	\$551,840:	+\$100,840 (1)
2. Blister rust quaran- tine enforcement (Entomology and Plant Quarantine)	9,731:	9,980:	9,980:	- -
3. Blister rust control operations on the national forests (Forest Service) ...	819,508:	1,040,320:	1,840,300:	+799,980 (1)
4. Blister rust control operations on lands under jurisdiction of Interior Department (Department of the Interior)	127,020:	170,747:	377,700:	+206,953 (1)
5. Cooperative blister rust control on State and privately-owned lands (Entomology and Plant Quarantine):	243,803:	251,820:	1,470,180:	+1,218,360 (1)
6. Overtime costs	275,241:	340,159:	- -:	-340,159
Unobligated balance ..	187,431:	- -:	- -:	- -
Total estimate or appropriation	2,100,000:	2,264,026:	4,250,000:	+1,985,974

INCREASES OR DECREASES

The net increase of \$1,985,974 in this item for 1946 consists of the \$340,159 decrease for overtime and

- (1) An increase of \$2,326,133 to accelerate the rate of progress in establishing control of white pine blister rust.

The increase of \$2,326,133 is distributed by projects as follows:

"Leadership, coordination and technical direction of white pine blister rust control" (Bureau of Entomology and Plant Quarantine) to provide the additional field personnel needed to provide adequate technical inspection, direction, supervision, coordination and planning to an expanded work program for the control of blister rust on the lands of all Cooperative, Federal, State and private agencies	\$100,840
"Blister rust control operations on the National Forests" (Forest Service)	799,980
"Blister rust control operations on lands under jurisdiction of Interior Department" (Department of the Interior)	206,953
"Cooperative blister rust control operations on State and privately-owned lands" (Bureau of Entomology and Plant Quarantine)	1,218,360

Need for the increase: Control of the blister rust disease of white pine is one of the protective measures essential to the maintenance of these valuable trees in the forests of the United States. This disease has been reported from 28 states and is present in the principal white pine timber-producing regions. The program for its control is carried on by the United States Department of Agriculture in cooperation with the affected States and other Federal agencies responsible for the administration of white pine forest lands. The initial eradication of ribes (currant and gooseberry, which are the disease-spreading alternate host plants) has been completed on three-fourths of the white pine forest acreage so far scheduled for protection from blister rust, and about one-fourth of this acreage has been reworked. The problem involves initial eradication of ribes on 28,000,000 acres of forest lands in public and private ownerships and reworking of such portions of this acreage as may be necessary to keep the disease under control.

Prior to the war, rapid progress was made in initial ribes eradication with the use of emergency relief labor. Since then, the program has been operating on the basis of holding the progress already made in the control of blister rust. This has resulted in a reduction of initial work on unprotected areas and an increase in rework on previously treated areas to maintain control of the disease. Under this plan some ground has been lost, because war conditions have not permitted operations on a scale sufficiently large to take care of all the needed initial

work and rework. The problem has been complicated by the hurricane of 1938 and the abnormal cutting of white pine to meet war demands. During the period 1940 through 1943 over 7 billion board feet of white pine lumber have been provided for war use and the cutover acreage has been added to that requiring initial eradication. This is necessary because pine reproduction and ribes usually follow logging, and the ribes on these areas must be eradicated to save the young pines.

The control area aggregates approximately 28,000,000 acres. Initial ribes eradication has been performed on over 22,000,000 acres, and of this acreage about 7,000,000 acres have been reworked. There remain approximately 6,000,000 acres of control area still in need of initial ribes eradication as of January 1, 1944, plus a large acreage that will require more or less rework to keep the disease under control. The proposed increase is the first step toward enlarging the field work program to enable the Bureau of Entomology and Plant Quarantine, the Forest Service, and the Department of the Interior to increase the rate of progress in control work on the remaining unworked acreage and on the acreage needing rework. The recruitment of labor will include discharged soldiers and sailors, as far as conditions permit. Ribes eradication in forest areas is healthful work and it has proved beneficial in helping a few veterans employed during the last field season to rehabilitate themselves and become adjusted to civilian life.

The rust has intensified rapidly during the last few years on many unprotected areas in portions of the Eastern white pine, Western white pine, and sugar pine belts. The chief points of interest in connection with its spread in 1944 were the finding of infected white pine in 5 new counties in northeastern Iowa, a 65-mile southward extension of the rust on ribes to the center of the sugar pine belt in California, the discovery of the rust on ribes in Yellowstone National Park, and the first reported finding of the disease on Pinus flexilis within its natural range. This infection was found in Glacier National Park and is the first reported location of the disease on pine on the east side of the Continental Divide.

Increased State contributions for cooperative work on State and private lands are anticipated in proportion to the needs of the program. Already, some States have formulated plans for expanding their part of the work as circumstances warrant. The extent to which funds may become available during the fiscal year 1946 is, of course, not determinable at this time.

WORK UNDER THIS APPROPRIATION

Objective: To control white pine blister rust in the white pine forest areas of the United States by the timely eradication of the disease-spreading alternate host plants (currants and gooseberries, commonly called Ribes) so as to preserve the present and future economic, aesthetic, and recreational values of these forest trees.

The Problem and its Significance: The blister rust problem in the United States involves the suppression of Ribes on white pine control areas aggregating about 28,000,000 acres. These areas occur on the National Forests, National Parks, O&C Revested lands, Public Domain, Indian Reservations, and on State and privately owned lands. Federal, State and privately owned lands are often intermingled, and under such conditions the control work must be coordinated and operated as uniform work programs.

Completion of the initial control work will prevent serious losses of young growth from this disease. Also, re-eradication is important in keeping Ribes on the decline in worked areas. This is accomplished by proper timing of re-eradication to prevent Ribes from producing seed. As the initial work has been done over a period of several years, some of the worked areas are reaching the re-eradication stage each year and should be promptly reworked to maintain the most effective control of the rust. Reworking keeps the Ribes population on the downward grade and safeguards the investment already made. In many control areas one reworking is enough to reduce the number of Ribes so low that the areas can be placed on a maintenance basis. Others require two or more reworkings. Once these areas have reached a maintenance basis, a small amount of work is needed each year to maintain the control status and to eradicate Ribes from new sites that are being taken over by natural reproduction and by forest plantings.

There are 8 species of native white pine in this country, three of which are of great economic value. The three commercial species are the eastern white pine which extends from Maine southward to Georgia and westward to Minnesota, the western white pine of the northern Rocky Mountain region, and the sugar pine of Oregon and California. The mature stands of these trees have an estimated stumpage value of about \$300,000,000. The young growth probably represents equal or greater values in potential future crops. Also, the white pines in general are highly important over extensive areas for park and recreational purposes and for watershed use on public and private lands. The conservation of the country's white pine resources is an integral part of a program to keep these forests productive and provide timber supplies which are recognized as important military assets. The control of blister rust is necessary to protect and conserve the supply of this valuable wood for present and future national welfare, to provide for the stability of white-pine-using industries, and to maintain employment and community welfare in white-pine-producing areas.

The white pines constitute a renewable forest resource of great importance to present and future forestry in this country. These forests are in serious danger from white pine blister rust, a destructive fungous disease of foreign origin that is now present in 28 States. The rust kills the white pines, the young trees dying quickly and the older trees more slowly. In unprotected areas the young growth and many of the older trees scattered through the forests are already succumbing to the disease. The fungus which causes blister rust spends part of its life cycle on currant and gooseberry plants. Spores produced on these plants infect white pines, and form bark cankers that

~~kill the trees.~~ Control is accomplished by the elimination of the currant and gooseberry bushes within and near white pine forests.

Blister rust control work is important on public and private lands where Eastern white, Western white, and sugar pines are significant and valuable components of the forests. Eastern white pine is commercially important over extensive areas from Minnesota to Maine and south to Georgia. On good sites this species is capable of producing from 20,000 to 30,000 board feet per acre in 60 years, and is one of the principal sources of income for owners of farm woodlots and forest lands. In eastern Washington, northern Idaho, and western Montana, the continued production of Western white pine is the backbone of local economy and essential to the maintenance of dependent industries and the production of valuable timber products for Nation-wide markets. Likewise, sugar pine is of high economic importance within its natural range in California and Oregon. These regions are sources of commercial timber supplies that must be protected from blister rust to safeguard present and future white pine forests and the industries for which they furnish the raw material.

General Plan: The white pine blister rust control work is conducted under the leadership of the Bureau of Entomology and Plant Quarantine in cooperation with other Federal, State, private and local agencies. The Bureau carries the responsibility for the over-all planning, coordination, and technical direction of the work. It also determines the location and intensity of blister rust infection, develops and improves control methods, maintains effective standards of Ribes eradication, enforces the Federal blister rust quarantine, and carries out surveys to locate and map white pine. Ribes eradication on State and private lands is performed by the Bureau in cooperation with the agencies and individuals concerned. Authority for the removal of Ribes is provided under the plant pest laws and regulations of the cooperating States, which also are responsible for regulating the movement of Ribes and pines within the State.

The Forest Service is responsible for Ribes eradication carried out on lands under its jurisdiction, and the Department of the Interior for similar operations on lands under its administration, including the National Parks, Indian Reservations, and the Oregon and California revested lands.

White pine forest stands are selected for blister rust protection on the basis of minimum stocking requirements agreed upon by the cooperating agencies. These vary somewhat in accordance with forest practice in the different white pine regions. Such stands and their surrounding 900-foot protective zones are called control areas. The establishment of control areas for the protection of ornamental, recreational, or aesthetic white pine stands depends upon their value, importance, and use for such purposes.

The control areas are cleared of Ribes by laborers operating under close supervision. They are then checked by trained employees to make sure the Ribes have been reduced to a point that effectively establishes

control of the disease. These control areas are reexamined at periodic intervals of about 4 to 6 years to locate areas reinfested by Ribes that may have developed from sprouts or from seeds in the soil, or from small missed bushes. Such areas are reworked to maintain continuous control of the rust. In the West, white pine forests are remote from centers of population, and the workmen have to be subsisted in camps within the control areas.

Progress and Current Program:

General: The results of control work during past years is reflected in available lumber for the war effort and young growth for the next forest crop. Stands of white pine initially protected from blister rust in the earlier years of the control program are being harvested, and the young growth now receiving protection by Ribes (currant and gooseberry) eradication will provide lumber for the future. Over 2,000,000,000 board feet of white pine lumber were used during each of the last three years in connection with the war effort. Accelerated cutting of white pine caused by war demands continued during 1943, and the need for adequately protecting the young growth, which is soon killed by blister rust, becomes of increased importance in providing for future crops of this valuable wood.

War conditions continued to handicap the control program and increase the difficulties of field operations, although some regions experienced less trouble than others. There were varying degrees of labor shortages in different areas, and a scarcity of many items of supply and equipment. The various unavoidable and necessary restrictive orders and regulations resulting from these shortages, such as priority ratings, wage and labor stabilization policies, food and gasoline rationing, and restricted travel, greatly increased the problems and difficulties of carrying on field work. Adjustments were made to meet these conditions by using labor outside draft age, by restricting travel and the use of equipment and supplies to bare essentials, by adopting a holding program for the duration of the war, by revising work schedules to maintain control on protected areas and by giving priority to areas requiring rework.

Of the approximately 28,000,000 acres of white pine control area in the United States, initial eradication of ribes has been completed on over 22,000,000 acres of the net control area, and of this acreage about 7,000,000 acres have been reworked. Accomplishments during 1943 were in general somewhat less than for the previous year, but the combined efforts of the several cooperating Federal, State, and private agencies resulted in the eradication of 16,116,886 ribes on 1,141,914 acres of forest land of which 674,644 acres was rework, and 467,270 initial eradication. A summary of results accomplished during the calendar year 1943 by regions, programs and land ownership is given in Tables 1 to 3, and the status of control by land ownerships is given in Tables 4 to 7.

Cooperating in this program with the Federal agencies previously mentioned are the 28 affected States, and counties, townships, timber protective associations, lumber companies, and individuals. The number of workers used on ribes eradication at the peak of the season was 4,583, of which 265 were temporary and regular employees who supervised the seasonal labor used on the project. In carrying out the field work, 72 camps were operated in forest areas using temporary employees of the Department and cooperating agencies. These employees consisted mostly of young men below draft age. The camps were distributed as follows: 35 in the western white pine region, 30 in the Sugar Pine, and 5 in the north-central, and 2 in the Southern Appalachians. In addition, 7 camps were manned with Civilian Public Service labor. In forest areas where camps were unnecessary, the required seasonal labor was obtained in the localities where work was in progress.

Bureau of Entomology and Plant Quarantine:

The Bureau continued to provide for the over-all planning, coordination and technical direction of the cooperative control work. The technical and supervisory organization was adjusted to war conditions by leaving unfilled some of the vacancies caused by draft or transfer, by asking temporary deferment for only key employees, by reducing personnel to a minimum consistent with providing for the discharge of the work of the Bureau and its responsibilities to cooperating agencies, and by cooperating wherever possible to assist war-time forest activities. In some regions the general scarcity of labor in forest areas, or its employment on urgent war projects, resulted in greater use of blister rust crews on emergency fire suppression work.

On state and private lands, blister rust control was advanced during 1943 by the eradication of 8,155,138 ribes on 644,187 acres, of which 192,521 acres was initial work and 451,666 rework. Removing these ribes was of primary importance in protecting pines on state and private lands, but in some regions where these lands are intermingled with Federal lands, the work also afforded protection to the pines in Federal ownership. The status of the work at the end of 1943 is shown in Table 6.

The eradication of the cultivated black currant, Ribes nigrum, resulted in the removal of 286 bushes from 20 locations. These plants are very susceptible to blister rust and one of the principal agents in the long-distance spread and local establishment of the disease. Their eradication has supplemented the effectiveness of other control measures and the principal white pine regions are now relatively free of this plant.

Many white pines of high ornamental, recreational, and forest value have been attacked by blister rust within the infected regions. These trees can be saved, when the disease has not progressed too far, by cutting out the infected parts. Blister rust cankers were removed from 95,506 planted and ornamental pines, and 19,888 fatally diseased trees were destroyed.

Ribes eradication was carried on around 42 nurseries to protect 55,000,000 young pines growing in nursery and transplant beds. In this work 25,702 ribes were destroyed on 17,629 acres. This is an average of 1.5 bushes per acre and is indicative of the high degree of blister rust protection maintained around nurseries producing white pine planting stock for reforestation. A number of nurseries and their environs are now practically ribes-free and are maintained in this condition by periodic inspection and by reworking any portions on which ribes reappear and endanger the pine.

Work on the development and improvement of control measures was continued in the western white and sugar pine regions. In California, dosage tests with aqueous ammonium sulfamate sprays on Ribes roezli confirmed preliminary data showing favorable killing action on this species which has been markedly resistant to other well-known herbicides. Similar tests with ammonium sulfamate were applied to R. lacustre in northern Idaho, where this species is a troublesome eradication problem on some areas. Experimental work in extracting ribes seeds from samples of forest duff and soil resulted in the development of a successful method consisting of a combination of mechanical screening and blowing, and subsequent flotation in a saturated solution of calcium chloride. This method will be used in making direct measurements of the potential ribes regeneration hazard in parts of control areas where these bushes are exceptionally persistent. Studies were continued on tests of new herbicides for ribes eradication, on sampling methods used to determine pine stocking and disease prevalence, and on the ecology of ribes and white pines. Additional data were obtained on the germination of ribes and white pine seeds, the effects of logging, burning, and grazing on ribes regeneration, and the correlation of ribes ecology and pine management practices.

White pine blister rust has been reported from 28 States. In California, infection on ribes was found this year for the first time on the Tahoe National Forest, which extends the known distribution of the disease a few miles southward in the commercial sugar pine belt. Rust on ribes was also found in Marin County along the California coast. Within the sugar pine area of California and Oregon where rust has been found, a careful search was made for centers of pine infection in all control units. In these centers, the cankers on the pines and also the ribes in the vicinity were removed. This action temporarily retards the intensification and spread of rust, thus allowing more time for eradicating ribes in additional sugar pine stands in advance of the disease. In the western white pine type of eastern Washington, northern Idaho, and western Montana, the rust is well established and increasing on those portions of the control area where ribes are still prevalent. In the Southern Appalachian region, blister rust was found for the first time on ribes in Bedford, Botetourt, and Washington Counties, Virginia, and on white pine in Giles, Nelson and Rockbridge Counties. Also, the disease was found for the first time on pine in Greenbrier County, West Virginia, and was again observed on ribes in Avery County, North Carolina. Weather conditions in the North Central States continued to be favorable for the spread of the rust, particularly in the

northern part of Michigan, Wisconsin, and Minnesota, where the disease is increasing on pine. In northeastern Minnesota, blister rust is developing so rapidly that millions of young white pines will be killed before they can be protected. Also, in some areas the unprotected pines are so severely diseased that they have been abandoned to the rust. One such stand in Sawyer County, Wisconsin, had 70 per cent of the trees infected, while another stand in the same locality that had been protected by ribes eradication showed less than 5 per cent infection. In the Northeastern States, ribes were quite generally infected, although evidence of pine infection of recent origin is rather meager even in some unprotected areas, which is the reverse of the situation in the North Central States. Some of this is due to weather conditions adverse to rust development, but the chief factor in checking the spread of the disease has been the eradication of ribes on over 85 per cent of the control area.

The examination of nursery stock enroute at key transfer points in the United States was continued as the primary means of securing compliance with the Federal domestic quarantine on account of white pine blister rust. These restrictions have been instrumental in delaying the spread of the disease. Control measures are being applied cooperatively on a large scale in both infected and non-infected white pine states. Current quarantine measures are designed (1) to protect two pine-growing regions in which the disease has not yet become established; one comprised of Arizona, Colorado, Nevada, New Mexico, Utah, Wyoming, and part of California; and the other Georgia, Kentucky, North Carolina, South Carolina, and Tennessee; and (2) to control the shipping of currant and gooseberry plants into 23 States which maintain blister rust control areas and in which the planting and growing of these plants in specified areas is prohibited as a measure of protection to white pine stands. During the fiscal year 1944, 235 shipments consigned in violation of the quarantine were intercepted. The majority of these shipments consisted of currant and gooseberry plants moving without control-area permits into states which have established areas where the growing of these plants is prohibited or restricted in order to protect white pine stands, and therefore, constituted a hazard in the dissemination or establishment of the disease in such locations.

Forest Service:

Initial control work on national forests has covered some 3,046,057 acres out of the present estimated control area of 4,335,091 acres. This leaves 1,289,034 acres still to receive initial ribes eradication as of January 1, 1944. 1,009,111 acres yet to be worked are in the West with 269,577 acres in the western white pine, and 739,534 acres in the sugar pine region. During the year 1943 in the face of many handicaps due to the war, a total of 22,221 acres were worked in the western white pine region, and 22,809 in the sugar pine region, or a total of 45,030. Of this total, 30,519 acres was rework, and 14,511 initial eradication.

In the eastern white pine areas the important job is to maintain the areas already covered and extend the work to cover white pine areas estimated at 279,923 acres which have not been initially protected. Nearly all of this acreage is on national forests in the Southern Appalachian and Lake States. A total of 426,841 acres were worked in 1943, of which 250,632 acres was initial eradication. Most of this work was carried on in the Southern Appalachian States where rapid coverage is possible because much of the area is largely free of ribes. In the Northeastern States the work was primarily of a maintenance nature to insure the continued effectiveness of past control work. In the national forests of the Lake States the work was about equally divided between initial and rework. In this region there is estimated to be about 148,000 acres still in need of initial ribes eradication to protect white pine stands.

National Park Service:

On lands under the jurisdiction of the National Park Service, white pine blister rust control was advanced during the calendar year 1943 by the eradication of 1,150,665 ribes on 12,937 acres, of which 4,734 acres were initial eradication work and 8,203 acres reeradication work. The bulk of the control work was accomplished in the sugar pine and western white pine regions where the major initial eradication work yet to be done on National Park lands is located. Control work also was continued in the National Parks in the Northeastern and Southern Appalachian States.

Five-needle pines form an important part of the forest cover in 13 National Parks, one recreational demonstration area, and the Blue Ridge Parkway. As the disease is becoming more widespread each year, it is imperative to protect the pines within these nationally important areas in order to prevent them from being killed. The status of the work at the end of 1943 is shown in Table 5.

General Land Office:

On Revested Oregon and California Railroad and Reconveyed Coos Bay Wagon Road grant lands under the jurisdiction of the General Land Office white pine blister rust control was advanced during the calendar year 1943 by the eradication of 87,547 ribes on 4,072 acres, all of which was initial eradication. Also, 43,456 ribes were eradicated from 2,815 acres of intermingled public and private lands by control crews under the supervision of the General Land Office. This work was entirely within the State of Oregon.

Considering that there are approximately 1,100,000,000 feet board measure of highly valued five-needle pines on O & C lands, any extensive blister rust losses would greatly reduce the potential commercial value of these lands. The status of work at the end of 1943 is shown in Table 5.

Office of Indian Affairs:

On Indian reservations lying within the Lake States, white pine blister rust control work was advanced during the calendar year 1943 by the eradication of 588,739 ribes on 7,580 acres. This control work was entirely reeradication, except for 640 acres of initial work. The total stumpage value of the five-needle pines within the forests of 12 Indian reservations is estimated to be approximately \$1,720,000. Control work is decidedly essential if this natural resource is to be protected. The status of work on Indian reservations at the end of 1943 is shown in Table 5.

Table 1.--Ribes Eradication Work during the Calendar Year 1943 1/
(Initial and reeradication)

Region	Initial : :eradication: : (Acres) :	Reeradi- : cation : : (Acres) :	Total : (Acres) :	Effective : : Labor : : (Man-Days) :	Ribes : destroyed : (Number)
Northeastern	92,928:	275,799:	368,727:	28,287:	2,574,503
Southern Appalachian	284,578:	278,049:	562,627:	10,191:	817,615
North Central	50,573:	58,646:	109,219:	15,490:	2,061,192
Northwestern (Idaho, Montana, Washington)	8,927:	27,820:	36,747:	47,098:	3,790,528
Pacific Coast (California, Oregon)	30,264:	34,330:	64,594:	50,115:	6,873,048
Total	467,270:	674,644:	1,141,914:	151,181:	16,116,886

1/ Includes work of cooperating Federal, State, and private agencies.
Net figures used.

Table 2.--Summary of Acreage Worked in 1943 by Programs 1/
(Initial and reeradication)

Region	Regular and : cooperative : programs :	C.P.S. <u>2/</u> : camps :	Total
Northeastern	368,727	--	368,727
Southern Appalachian	559,290	3,337	562,627
North Central	105,603	3,616	109,219
Northwestern	36,359	388	36,747
Pacific Coast	64,524	70	64,594
Total	1,134,503	7,411	1,141,914

1/ Includes work of cooperating Federal, State, and private agencies.

2/ Civilian Public Service (Conscientious Objectors).
Net figures used.

Table 3.--Summary of Acreage Worked in 1943 by Land Ownership
(Initial and reeradication)

Ownership	Eastern White Pine Region	Western White Pine Region	Pacific Coast Region	Total
Federal:				
National Forests	426,841	22,221	22,809	471,871
O & C Revested Lands	- -	- -	4,072	4,072
Other Public Domain	- -	1,267	- -	1,267
National Parks	4,946	813	7,178	12,937
Indian Reservations	7,580	- -	- -	7,580
Total Federal	439,367	24,301	34,059	497,727
State and Private	601,206	12,446	30,535	644,187
Grand Total	1,040,573	36,747	64,594	1,141,914

Net figures used.

Table 4.--Progress on National Forest Lands through 1943

Region	Ribes eradication				Status of control			
	Initial	Reeradication			Total	Initially	Unworked	
	eradica- tion (Acres)	First :working (Acres)	Others (Acres)	Total (Acres)	control area (Acres)	:worked con- trol area (Acres)	: control area (Acres)	
Northeastern	7,646:	3,398:	1,947:	12,991:	9,544:	7,646:	1,898	
Southern Appalachian	1,348,838:	275,684:	15,496:	1,640,018:	1,478,255:	1,348,838:	129,417	
North Central	269,924:	57,168:	7,384:	334,476:	418,532:	269,924:	148,608	
Subtotal, Eastern	1,626,408:	336,250:	24,827:	1,987,485:	1,906,331:	1,626,408:	279,923	
Northwestern (Idaho, Montana, Washington)	1,049,784:	227,941:	31,131:	1,308,856:	1,319,361:	1,049,784:	269,577	
Pacific Coast (Oregon, California)	369,865:	167,208:	42,840:	579,913:	1,109,399:	369,865:	739,534	
Subtotal, Western	1,419,649:	395,149:	73,971:	1,888,769:	2,428,760:	1,419,649:	1,009,111	
Total	3,046,057:	731,399:	98,798:	3,876,254:	4,335,091:	3,046,057:	1,289,034	
Rocky Mountain (Colorado, Wyoming 1/)	36,619:	1,962:	--:	38,581:	421,000:	36,619:	384,381	
Grand Total	3,082,676:	733,361:	98,798:	3,914,835:	4,756,091:	3,082,676:	1,673,415	

1/ Experimental work with relief labor to determine feasibility of control by ribes eradication in these States.

Net figures used.

Table 5.--Progress of Department of Interior Lands through 1943

Region	Ribes eradication				Status of control			
	Reeradication		Total		Initially : Unworked		control : worked con- : control	
	Initial : eradica- tion : (Acres)	First : working : (Acres)	Others : (Acres)	Total (Acres)	control area : (Acres)	area : (Acres)	trol area : (Acres)	area : (Acres)
National Parks:								
Northeastern	21,250:	11,264:	--: 1/	32,514:	21,250:	21,250:	21,250:	--
Southern Appalachian	131,510:	17,819:	3,165:	152,494:	131,510:	131,510:	131,510:	--
Subtotal, Eastern	152,760:	29,083:	3,165:	185,008:	152,760:	152,760:	152,760:	--
Northwestern	11,451:	5,845:	4,369:	21,665:	43,954:	11,451:	32,503	
Pacific Coast	88,023:	13,244:	--:	101,267:	247,302:	88,023:	159,279	
Subtotal, Western	99,474:	19,089:	4,369:	122,932:	291,256:	99,474:	191,782	
Total, National Parks	252,234:	48,172:	7,534:	307,940:	444,016:	252,234:	191,782	
Total, O & C Revested Lands,								
Pacific Coast	37,596:	--:	--:	37,596:	129,709:	37,596:	92,113	
Public Domain:								
North Central	1,387:	--:	--:	1,387:	3,170:	1,387:	1,783	
Northwestern	16,997:	5,900:	1,039:	23,936:	30,905:	16,997:	13,908	
Total, Public Domain ...	18,384:	5,900:	1,039:	25,323:	34,075:	18,384:	15,691	
Indian Lands:								
Southern Appalachian	2/ 445:	--:	--:	445:	445:	445:	--	
North Central	76,896:	43,697:	2,940:	123,533:	97,241:	76,896:	20,345	
Rocky Mountain	--:	--:	--:	--:	3/ 11,000:	--:	11,000	
Total, Indian Lands	77,341:	43,697:	2,940:	123,978:	108,686:	77,341:	31,345	
Grand Total	385,555:	97,769:	11,513:	494,837:	716,486:	385,555:	330,931	

1/ Survey of Hickory Run Recreational area reduced the control area to 800 acres.

2/ Cherokee Reservation, North Carolina.

3/ Shoshone Reservation, Wyoming.

Net figures used.

Table 6.--Progress on State and Private Lands through 1943

Region	Ribes eradication				Status of control			
	Reeradication		Total		Total		Initially : Unworked	
	Initial : eradica- tion (Acres)	First : working (Acres)	Others : (Acres)	(Acres)	control : area (Acres)	worked con- trol area : (Acres)	control area : (Acres)	
Northeastern	10,796,649:	4,200,620:	449,967:	15,447,236:	12,679,044:	10,796,649:	1,882,395	
Southern Appalachian	4,084,783:	419,176:	18,938:	4,522,897:	4,130,902:	4,084,783:	46,119	
North Central	2,407,560:	562,194:	49,702:	3,019,456:	3,527,848:	2,407,560:	1,120,288:	
Subtotal, Eastern	17,288,992:	5,181,990:	518,607:	22,989,589:	20,337,794:	17,288,992:	3,048,802	
Northwestern (Idaho, Montana, Washington) ..	821,369:	166,702:	35,253:	1,023,324:	1,114,715:	821,369:	293,346	
Pacific Coast (Oregon, California)	433,370:	152,333:	15,793:	601,496:	1,044,910:	433,370:	611,540:	
Subtotal, Western ...	1,254,739:	319,035:	51,046:	1,624,820:	2,159,625:	1,254,739:	904,886	
Grand Total	18,543,731:	5,501,025:	569,653:	24,614,409:	22,497,419:	18,543,731:	3,953,688	

Net figures used.

Table 7.--Progress on Lands in All Ownerships through 1943

Region	Total control area (Acres)	Initially worked control area (Acres)	Unworked control area (Acres)	Reeradication			% of con- trol area initially worked
				First reworked (Acres)	Other (Acres)	(Acres)	
Northeastern	12,709,838:	10,825,545:	1,884,293:	4,215,282:	451,914:		85
Southern Appalachian	5,741,112:	5,565,576:	175,536:	712,679:	37,599:		97
North Central	4,046,791:	2,755,767:	1,291,024:	663,059:	60,026:		68
Subtotal, Eastern	22,497,741:	19,146,888:	3,350,853:	5,591,020:	549,539:		85
Northwestern (Idaho, Montana, Washington)	2,483,235:	1,899,601:	583,634:	406,388:	71,792:		77
Pacific Coast (Oregon, California):	2,531,320:	928,854:	1,602,466:	332,785:	58,633:		37
Subtotal, Western	5,014,555:	2,828,455:	2,186,100:	739,173:	130,425:		56
Total	27,512,296:	21,975,343:	5,536,953:	6,330,193:	679,964:		80
Rocky Mountain (Colorado, Wyoming 1/)	457,700:	36,619:	421,081:	1,962:	- -:		8
Grand Total	27,969,996:	22,011,962:	5,958,034:	6,332,155:	679,964:		79

1/ Experimental work to determine feasibility of control by ribes eradication in these States.
Net figures used.

PASSENGER-CARRYING VEHICLES

No new passenger cars have been purchased for use in white pine blister rust control work during the fiscal years 1944 and 1945 and 15 of the 61 cars being used by the Bureau of Entomology and Plant Quarantine on this work are badly in need of replacement. The estimates, therefore, propose the replacement of these 15 cars in 1946. All of the cars will be more than eight years old when replaced and each will have traveled more than 75,000 miles. Their further use would not be economical if, in fact, some of them could be kept running at all. The cars to be purchased will replace 4 machines now in operation in California, 2 in Michigan, and 1 each in Maine, New Hampshire, Vermont, West Virginia, Virginia, Iowa, Minnesota, Wisconsin, and Washington.

The estimates also provide for acquisition of one car by the Department of the Interior for use in transporting supervisory and technical personnel directing blister rust control activities under its jurisdiction. There is at present one old passenger-carrying vehicle, purchased with Civilian Conservation Corps funds, being used on this project. The 1946 estimates provide for additional supervisory work in connection with the expanded program, and this will require considerable inter- and intra-park travel. As there is no passenger-carrying vehicle available for assignment in connection with this supervisory work, it is necessary that a new car be purchased.

FOREST SERVICE

Salaries and Expenses

(a) Preamble

The estimates include proposed changes in the language of the preamble, as follows (new language underscored, deleted matter enclosed with brackets):

Change
No.

- * * * Provided, That the cost of any building purchased, erected, or as improved, exclusive of the cost of constructing a water-supply or sanitary system and of connecting the same with any such building, and exclusive of the cost of any tower upon which a lookout house may be erected, shall not exceed [\$7,500] \$10,000, with the exception that any building erected, purchased, or acquired, the cost of which
- 1 was [\$7,500] \$10,000 or more, may be improved out of the appropriations made under this Act for the Forest Service by an amount not to exceed 2 per centum of the cost of such building as certified by the Secretary; to protect, administer, and improve the national forests, including tree planting and other measures to prevent erosion, drift, surface wash, soil waste, and the formation of floods, and to conserve
- 2 water [and including the payment of rewards under regulations of the Secretary for information leading to the arrest and conviction for violation of the laws and regulations relating to fires in or near national forests, or for the unlawful taking of, or injury to, Government property]; to ascertain the natural conditions upon and utilize the national forests, to transport and care for fish and game supplied to stock the national forests or the waters therein; to collate, digest, report, and illustrate the results of experiments and investigations made by the Forest Service; to purchase lawbooks, reference and technical books, and
- 3 technical journals for officers of the Forest Service stationed outside of Washington [, and for medical supplies and services and other assistance necessary for the immediate relief of artisans, laborers, and other employees engaged in any hazardous work under the Forest Service]: Provided further, That not to exceed \$1,500 may be expended for the contribution of the United States to the cost of the office of the secretariat of the International Union of Forest Research Stations and of the Department of Timber
- 4 Utilization of the Comité International du Bois [: Provided further, That the appropriations for the work of the Forest Service shall be available for meeting the expenses of warehouse maintenance and the procurement, care, and handling of supplies, equipment, and materials stored therein for

distribution to projects under the supervision of the Forest Service and for sale and distribution to other Government activities and to State and private agencies who cooperate with the Forest Service in fire control under terms of written cooperative agreements, the cost of such supplies, equipment, and materials, including the cost of supervision, transportation, warehousing, and handling, to be reimbursed to appropriations current at the time additional supplies and materials are procured for warehouse stocks: Provided further, That the appropriations for the work of the Forest Service available for the operation, repair, maintenance, and replacement of motor and other equipment may be reimbursed for use of such equipment on projects of the Forest Service chargeable to other appropriations, or on work of other Federal agencies, when requested by such agencies, reimbursement to be made from appropriations applicable to the work on which used at rental rates fixed by the Chief Forester based on the actual or estimated cost of operation, repair, maintenance, depreciation, and equipment management control, and credited to appropriations currently available at the time adjustment is effected: Provided further, That the Forest Service may rent equipment for fire-control purposes to State, county, private, or other non-Federal agencies cooperating with the Forest Service in fire control under the terms of written cooperative agreements, the amount collected for such rental to be credited to appropriations currently available at the time payment is received], as follows:

The first change is to permit construction and improvement of individual buildings at a cost of not to exceed \$10,000, in lieu of the \$7,500 limitation as carried in the 1945 Act. While very few buildings are being constructed at the present time, it is recommended that the building limitation be brought into line with the general advance which has taken place in the cost of building materials and wages since the present building limitation was established in 1938. Building costs have advanced approximately 33-1/3 percent since that year.

The demand for additional buildings—dwellings, warehouses, shops, etc.—on the national forests exists now, but can not be satisfied because of a shortage of manpower and materials. This change in limitation is recommended to permit the Forest Service to construct buildings of adequate size and quality as soon as conditions permit.

The second, third, and fourth changes delete authorizations for payment of rewards, medical services for employees engaged in hazardous work, warehousing of supplies, equipment and materials, and the rental of equipment, all of which authorities are now contained in sections 201-204 of the Department of Agriculture Organic Act of 1944, approved September 21, 1944 (Public Law 425).

(b) General Administrative Expenses

Appropriation Act, 1945	\$625,000
Budget estimate, 1946	<u>542,000</u>
Change for 1946:	
Overtime decrease -\$82,725	
Other decrease <u>-275</u>	<u>-83,000</u>

PROJECT STATEMENT

Project	: 1944	: 1945	: 1946	: Increase or
	: (estimated)	: (estimated)	: (estimated)	: decrease
1. General administration and business service ...	: \$550,669:	: \$542,275:	: \$542,000:	: -\$275 (1)
2. Overtime costs	: 82,849:	: 82,725:	: - -:	: -82,725
Unobligated balance	: 9,152:	: - -:	: - -:	: - -
Total estimate or appropriation	: 642,670:	: 625,000:	: 542,000:	: -83,000

DECREASE

The decrease of \$83,000 for 1946 consists of the \$82,725 decrease for overtime, and

(1) A decrease of \$275 to round-off the appropriation total.

WORK UNDER THIS APPROPRIATION

The work under this appropriation provides for the leadership, coordination, planning and control of the program of work of the Forest Service, including its special wartime responsibilities. It provides also for the service and facilitating operations which are necessary in the central office relating to personnel management, information and education, drafting, business management, procurement, and finance and fiscal control, as well as for the necessary inspection and audit of field operations.

The organization of the general administrative divisions consists of the Chief's office proper, Personnel Management, Fiscal Control, Information and Education, Operation, and the sections of Forest Land Planning, Drafting and Photography.

The Forest Service has three major responsibilities in normal times, which must be supplemented during a war by a fourth. They are:

1. The protection, management, development and utilization of more than 179,000,000 acres of land within the national forests, equivalent to approximately 10 percent of the area of the continental United States.

2. The promotion of good forest practices, including the protection of forests, on the 431,000,000 acres of state and private forest lands.
3. Forest and range research for all forest and open range lands.
4. Development and operational activities in forestry and allied fields in furtherance of the war effort.

The primary function of the Forest Service is to carry out the responsibility of the Federal Government in working out solutions of the Nation's forestry problems.

On the national forests this means direct technical management for the production of timber, forage for range livestock, water, wildlife, and recreation. It means the protection of public and intermingled private lands from fire and tree diseases, as well as the integration of the management of all forest resources, in order that they will contribute as fully as possible to economic and social betterment. It means, in short, the administration of the national forests in the broadest public interest and the demonstration of proper forest and related land management.

On the privately owned forest lands, which in major part are being badly handled from a national point of view, it means leadership, planning, and coordination of technical information. It means cooperation with the states and private agencies in protection against fire, in forest planting, and in obtaining improved forest management practices.

The attainment of these objectives requires the conduct of a large amount of research in all phases of forestry and forest range management, both independently and in cooperation with other technical and industrial agencies. Research in the technique of protecting, improving, and utilizing the forest resources and in the profitable use of land for forestry is essential to the success of the activities on the national forests and private forest lands. This research deals with problems of broad regional or national scope rather than those of a purely local character and is conducted under the provisions of the McSweeney-McNary and Norris-Doxey Acts.

Operating in three broad fields of activity, through its many field and cooperators' offices, the Forest Service is confronted with a complex and unusually difficult general administrative problem. There are approximately 1,000 field offices of the Forest Service, the majority of which are "one-man offices", where the opportunities for personal contacts with other employees are infrequent. Under these conditions there must be a constant flow of information and instructions from the central office to the field on policy and other matters.

The work of the Forest Service is closely allied with that of many other Government agencies, particularly the Soil Conservation Service; Bureau of Entomology and Plant Quarantine; Bureau of Plant Industry, Soils and Agricultural Engineering; Bureau of Agricultural and Industrial Chemistry; Bureau of Agricultural Economics; Public Roads Administration; Fish and Wildlife Service, the Grazing Service; Agricultural Experiment Stations, etc. During the war period many of the war agencies, including the Army and the Navy, have been added to this list.

Because of its numerous fields of responsibility and resulting activity throughout the forested sections of all the states and territories, the Forest Service organization is of necessity, as well as a result of thorough study, test, and deliberate choice, very thoroughly decentralized. This policy and practice is illustrated by the Division of Fire Control, which has responsibility for leadership and control (a) over a field force of from 5,000 to at times more than 20,000 persons engaged primarily in fire control work, and (b) over expenditures up to 10 million dollars a year. Yet the Division is composed, in the Washington office, of only 4 persons above the clerical grade. Other functional divisions in the main office are similarly restricted in size.

(c) National Forest Protection and Management

Appropriation Act, 1945	\$17,729,426
Second Deficiency Appropriation Act, 1944 (for additional funds for national forest protection and management activities)	+596,000
Total available, 1945	18,325,426
Budget estimate, 1946	17,349,100
Change for 1946:	
Overtime decrease ...	-\$2,551,140
Increase	+1,574,814
	<u>-976,326</u>

PROJECT STATEMENT

Project	1944	1945 (estimated)	1946 (estimated)	Increase or decrease
1. General management, operation, and regulation of national forest properties, including enforcement of Federal laws and regulations applicable to national forests	\$5,214,304	\$5,281,399	\$5,281,399	- -
2. Maintenance of improvements other than roads and trails (includes telephone lines, fences, lookout towers and observatories, fire breaks, offices, barns, garages, dwellings, outhouses, water developments, pipelines, public campgrounds, landing fields, etc.)	906,929	918,479	1,000,000	+81,521 (1)
3. Forest fire control, including prevention of fires and maintenance of a detection and "smoke-chaser" organization ..	5,507,023	5,545,180	5,545,180	- -
4. Control of tree-destroying insects and rodents on national forests	65,845	95,674	95,674	- -
5. Timber and forest products sales, free and administrative timber use, timber surveys, management plans, and timber stand improvement:	1,790,221	2,467,749	2,799,035	+331,286 (2)

PROJECT STATEMENT - Cont.

Project	1944	1945 :(estimated):	1946 :(estimated):	Increase or decrease
6. Allocation and issuance of grazing permits, supervision of range use by domestic livestock, range surveys and range management plans on national forests	420,282:	431,236:	550,000:	+118,764 (3)
7. Protection of the wildlife resources, preservation of forest conditions conducive to the propagation of wildlife, reduction in number of game animals in overstocked areas, wildlife surveys, and management plans ...	87,646:	87,634:	87,634:	- -
8. Enforcement of sanitary laws, garbage disposal, policing, and other requisite measures for safeguarding health and safety of national forest users	132,205:	131,757:	175,000:	+43,243 (4)
9. Land-use management on national forests, including rental of land; land classification; action on claims entered under public land laws; location and posting of national forest boundaries; general surveys, plans and maps, aerial photography; land exchange	452,679:	461,786:	1,461,786:	+1,000,000 (5)
10. Protection, development, and management of the water resources of the national forests	37,023:	32,572:	32,572:	- -
11. Construction of improvements other than roads and trails (includes telephone lines, fences, lookout towers and observatories, fire breaks, offices, barns, garages, dwellings, outhouses, water developments, pipe lines, public campgrounds, landing fields, etc.)	168,061:	76,566:	76,566:	- -

PROJECT STATEMENT - Cont.

Project	1944	1945 :(estimated):	1946 :(estimated):	Increase or decrease
12. Reforestation of de- nuded national forest areas	184,607:	244,254:	244,254:	- -
13. Overtime costs	2,433,295:	2,551,140:	- -:	-2,551,140
Unobligated balance	129,540:	- -:	- -:	- -
Total available	17,529,660:	18,325,426:	17,349,100:	-976,326
Transferred to:				
"Salaries and expenses, Procurement Division,				
Treasury Department"	+27,970:	- -:	- -:	
"Salaries and expenses, Office of Information"	+3,755:	- -:	- -:	
Total estimate or appropriation	17,561,385:	18,325,426:	17,349,100:	

INCREASES OR DECREASES

The net decrease of \$976,326 for 1946 consists of the \$2,551,140 decrease for overtime, and the following:

- (1) An increase of \$81,521 under the project "Maintenance of improvements other than roads and trails."

Objective: To prevent excessive deterioration of existing improvements.

The Problem: For years most of the maintenance of national forest improvements was done by the Civilian Conservation Corps. Consequently the discontinuance of that agency on June 30, 1942, combined with a shortage of regular funds, has made it impossible to maintain these improvements adequately since that time. It has been necessary to increase the standard of maintenance for telephone lines in war-affected zones, but for practically all other types of structures, maintenance standards have been lowered - some quite radically so - in recognition of the war-time situation. This lowering of standards has made it possible to do some of the most urgent maintenance jobs with the amount of regular funds available but not enough to prevent an increasingly excessive deterioration of the investment, leading to abnormally high maintenance and replacement costs in later years. The problem then, becomes one of providing sufficient funds to maintain existing national forest improvements at the necessary "subsistence" level.

Significance: The improvements on the national forests consist of thousands of small projects widely scattered over 179,000,000 acres of national forest territory. Many of these improvements are located at high elevations where damage from heavy snowfall and severe storms is extreme. Many of them are unattended or unoccupied during long periods

of time each year and maintenance charges are naturally higher because of this condition. While many improvements can be maintained at any season of the year the majority of the improvements on the national forests must be maintained during a very short working season; and certain fire control and range improvements must be maintained immediately after the areas in which they are located become accessible in the spring because the use of, or need for, these improvements occurs very soon thereafter. Fire control improvements such as telephone lines, lookout towers, fire breaks and guard cabins must be maintained in advance of the fire season at least to the point of usability. Range and other improvements must be maintained prior to public use in the early summer and spring months.

A tabulation of improvements will be found in the progress report on this project.

Plan of Work: Additional funds will be expended by employing small crews of men on the 139 national forest units, usually in advance of the field season, to do the necessary maintenance work. In many cases these will be the same men who later in the season will be a part of the forest fire control organization. Consequently, the employment of additional manpower will to that extent be avoided. Maintenance techniques have long been established and the procedures for accomplishing the work are a matter of routine on all forests and ranger districts.

- (2) An increase of \$331,286 necessitated by an estimated increase in timber sales of 500,000,000 board feet, and to provide for increased surveys and appraisals for cooperative sustained-yield management plans, under the project "Timber and forest products sales, free and administrative timber use, timber surveys, management of lands, and timber stand improvements".

Objective: To provide for surveying and appraising logging chances and completing management plans in advance of demand in order to avoid serious delays in placing national forest timber on the market; to handle the volume of work arising from a steadily increasing timber sale business; and to make surveys, cooperative sustained-yield management plans and appraisals in accordance with the provisions of the act of March 29, 1944 (Public 273).

The Problem: The rate of cutting timber from the national forests has increased continuously for the last six years. The greatest increase ever experienced occurred in fiscal year 1944 when the cut was almost 1 billion feet more than in the preceding fiscal year. Since the beginning of the war, the actual cut has exceeded the estimates prepared at the time of consideration of appropriations. In April 1944, in connection with the submission of a supplemental estimate of \$596,000 for timber use funds for fiscal year 1945, the Forest Service estimated the total cut for fiscal year 1944 at 3,200,000,000 board feet and for fiscal year 1945 at 3,500,000,000 board feet. The cut for fiscal year 1946 is estimated to be in the neighborhood of 4 billion feet. The actual cut in fiscal year 1944 was slightly in excess of 3,330,000,000 board feet.

The process of selling national forest timber divides logically into two phases. The first is the timber cruise, scheduling of cutting budgets and segregation and appraisal of specific logging chances. A large proportion of this type of work is done in fiscal years preceding the cutting of specific logging chances. The second phase is those activities which ensue after the execution of the timber sale contract such as timber marking, scaling and supervision of the cutting. Expenditures for this second series of activities occur with but minor exceptions in the same fiscal year as does the timber cutting. When the volume of timber cut on the national forests exceeds the estimates on which appropriations are based, it is necessary for the Forest Service to defer action on the first type of activity in order to redeem its responsibilities to administer currently active timber sales.

The Forest Service has seriously depleted its stock of prepared sale areas by reason of the continuously increasing cut of national forest timber since the outbreak of the war. The supplemental appropriation of \$596,000 for the timber use fund in fiscal year 1945, which amount has been added to the regular budget estimates for fiscal year 1946, is in part designed to rectify this situation and permit the Forest Service to maintain a timber sales business in the amount of approximately 3,500,000,000 board feet.

The Forest Service reasons for expecting the cut of national forest timber to continue at a high level for the balance of fiscal year 1945 and in fiscal year 1946 are:

1. Lumber and other forest products continue to be the most critical of all major raw materials.
2. Stockpiles of lumber have been steadily reduced to about one-third of pre-war inventories.
3. Many private operators are exhausting their holdings and are looking to the national forests for future timber supply.

In addition to the continuing increase in the work of preparing for and administering timber sales, the Forest Service has the task of developing cooperative and Federal sustained yield units under the Act of March 29, 1944, (Public 273). Some of the work under this act cannot be postponed until the close of the war since the rapid rate of depletion of stumpage reserves, both national forest and private, have a serious influence on the possibilities for workable sustained yield unit. It is necessary to carry through analyses of the effects of accelerated wartime timber depletion in certain areas where there are good possibilities of establishment of cooperative sustained yield units in order to provide for meeting the wartime needs without permanently impairing the opportunities for cooperative sustained yield management; \$70,000 of the "timber use" supplemental appropriation for fiscal year 1945 was earmarked for this work. A further expansion of this work is clearly needed and it is planned to use approximately \$50,000 of the increase for 1946 for this purpose.

Plan of Work: The \$331,286 increase will be expended in the following manner:

1. \$281,286 will be used to prepare additional areas of national forest land for sale through survey and appraisal of logging chances, and the completion of management plans, and to administer the cutting of approximately 500,000,000 board feet of timber which is the best present estimate of the increase in cutting in fiscal year 1946 over the quantity expected to be cut in fiscal year 1945.
2. \$50,000 will be used to increase the amount of work on surveys, plans and appraisals for cooperative and Federal sustained yield units under the Act of March 29, 1944; \$70,000 in fiscal year 1945 and 1946 are already earmarked for this activity, but there is an obvious need for an expansion of this work.
- (3) An increase of \$118,764 under the project "Allocation and issuance of grazing permits, supervision of range use by domestic livestock, range surveys, and range management plans on national forests."

Objective: To permit continued use of national forest ranges to the maximum degree consistent with their protection and sustained grazing capacity.

The Problem: Until a few years ago national forest ranges were in general thought to be well on the road to sustained forage production, slowly overcoming the effect of overstocking during the first World War. However, this trend was not maintained due to the weakened vitality of the basic forage stand, erosion, an extended drought, increased big game populations and other causes. The result is an exceedingly critical range situation - critical both from the standpoint of the range itself and the operators and communities dependent upon it.

More than one-half of the 10,000 separate range allotments constitute a problem of one sort or another in range management. The total area of these "problem" allotments is in excess of 38 million acres. They need attention along any one or all of the following and other lines: more intensive management, deferred and rotation use, reduced stocking, adjusted season of use, control of trespass, rodent control, poisonous plant eradication, adjusted distribution of the grazing animals, fences, water developments, artificial reseedling.

This increase will provide more adequate manpower to initiate and supervise needed refinements in management, without which only one course is open and that is reduction in use. That has been done to the extent of 45 percent since 1918. In many places further drastic adjustment, sometimes involving complete exclusion of livestock, will be necessary to save the soil and its cover, unless such action can be avoided or ameliorated through application of other corrective measures.

Sheep and cattle cannot be grazed in rough mountainous country typical of national forests, without injury to the soil and vegetation, unless handled skillfully under planned management. Without additional manpower to do range surveys, to prepare management plans and have them in all their varied and important aspects put into effect, and to step up cooperative relations with livestock associations, improvement adequate to the needs cannot be expected. Stability of dependent communities, livestock production to meet national needs, and receipts to the Treasury will best be served by keeping arbitrary reductions to the minimum.

Significance: Range for some 10 million head of livestock is involved.

In addition four and half million acres of crop-producing lands and 22 million acres of other land in private ownership representing, all told, investments of around \$330,000,000 are intimately tied in with the grazing use of national forest lands. The headwaters of some of the most important water courses in the Western States originate on national forest grazing lands. The citizenry of a large number of dependent communities has built up its enterprise in the expectancy of sustained production of adjacent national forest lands.

Plan of Work: The increase requested would enable local forest administrators to intensify range inspection work and get more of the kind of management on the ground needed to restore the productivity of damaged ranges and insure continued use of the forage crops without diminishing the soil or plant cover; would provide for resumption of the range inventory program, discontinued in 1940, which is vital to the intelligent and systematic handling of the range business; would facilitate more rapid development and application of up-to-date management plans; would help perform the large and important job of planning and supervising the construction of fences, watering places, driveways, and other improvements required to get good management and fullest use of the range resources, and, what is extremely important, would allow forest officers more time to work cooperatively with individual stockmen, advisory boards, and livestock associations in the solution of range management problems.

- (4) An increase of \$43,243 under the project "Enforcement of sanitary laws, garbage disposal, policing, and other requisite measures for safeguarding health and safety of national forest users."

Objective: To provide temporary personnel to maintain and clean up public use areas on the national forests, so as to insure the protection of the forests and the using public; to keep public use areas in sanitary condition; and to prevent deterioration of the areas and the improvements thereon.

The Problem: Public use on the national forests, summer and winter, and on the more than 4,000 improved recreation areas necessitates periodic supervision, maintenance, and clean-up in order to enable the forests and the recreation areas to provide public use without damage and deterioration. Administrative men need the assistance of short-term recreation guards to handle this work during peak load periods.

Significance: As a result of public demand for the various kinds of forest recreation, the Forest Service has, largely during the 10-year period from 1931 to 1942, developed and constructed a group of recreation areas, consisting of the following:

Established Areas	Number Areas	Number Acres	Normal Capacity One Time
			Number Persons
Campgrounds	2,300	10,716	77,079
Picnic Areas	572	6,290	50,065
Camp & Picnic Areas ..	1,381	18,688	154,080
Swimming Areas	201	896	36,605
Winter Sports Areas ..	254	51,241	156,825
Organization Camps ..	55	817	4,976
Hotels or Resorts	11	197	786
Totals	4,774	88,845	480,416

These established recreation areas include such improvements as sanitary and water systems, parking areas, tables, stoves, shelters, roads and trails, swimming facilities, ski trails, and ski slopes. These improvements must be kept clean, safe, and well maintained. Campgrounds and similar areas must be supervised to insure careful and orderly use, and to provide refuse disposal. Organization camps and resorts, of course, include more improvements.

Although war conditions temporarily have curtailed public uses of the national forests for recreational purposes, during the calendar year 1943 there were 6-1/4 million visits for recreational use and enjoyment of the facilities and services including resorts, organization camps, summer homes, improved campgrounds, and other recreational opportunities; the number of visits to tour the highways, roads, trails and water routes was about 11 million. During the same period the maintenance, protection and supervision of the recreational facilities was subject to a heavy reduction. In earlier years much of such work was performed by Civilian Conservation Corps enrollees, no longer available. In consequence current safety and sanitation minimum needs can not be met with current appropriations. It is to meet conditions and situations such described that the increase of \$43,243 is requested. This sum apportioned between the ten national forest regions will only enable each of them to meet only a small part of the existing need.

Plan of Work: Temporary laborers will be employed to perform or conduct on the more heavily used campgrounds the sanitary service and supervision requisite to the safe use of such areas.

- (5) An increase of \$1,000,000 for aerial photography and mapping of national forest areas.

Objective: To begin the work of providing aerial photographs and maps adequate in scale, accuracy, and detail for efficient administration of the national forests and the protection, development and utilization of their resources.

The Problem and its Significance: The war has fully demonstrated the value of good maps for peace-time as well as war activities and that the wastes and losses resulting from inaccurate or inadequate maps many times exceed the cost of good maps. The map adequacy situation in the national forests is the same as prevails generally in the United States. For only about 15 percent of the forests and immediate adjacent areas are existing maps adequate in scale, accuracy and detail. Use of maps is rapidly increasing. Larger scale and greater accuracy are needed. The problem in the national forests is to get the area mapped at the time needed and securing maps adequate not only for the time made but for the foreseeable future. Mapping in the past has generally been to meet an immediate or special need. When compiled from existing data - a practice generally followed in the past for national forests - or mapped by outmoded methods to inadequate specifications, the resulting maps have proved unreliable requiring remapping when needed for any but the specific use for which prepared.

Maps of national forests are required for general administration and planning. They are essential to fire control in accurately locating fires, formulating and executing fire suppression plans; to range management in mapping usable range types, estimating forage protection and preparing management plans to guide range administration; to timber management in locating operable timber stands, estimating volumes, distinguishing forest types and between immature and mature timber, making timber sales and generally in making plans for sustained yield; to road location in selecting routes of travel for protection and use of resources, especially timber; for locating and layouts of administrative and special use areas; and to practically all other forest activities.

Within five years, 200,000 square miles of planimetric and topographic maps will be needed for the national forests. Within the foreseeable future, need will exist for accurate and adequate topographic maps of the entire forest area except for about 50,000 square miles; for this area showing relief by contours will not be necessary and the much less costly planimetric maps will suffice. However, of the area eventually planned for topographic maps, urgent need for maps of about 60,000 square miles justifies utilization of available appropriations for planimetric mapping and subsequently obtaining and adding the elevational data.

The ground method previously used required completion of mapping before it became of value. More recently map preparation has been from aerial photographs. The sequence of mapping from photographs is to secure photography, establish horizontal and vertical control and then proceed with mapping operations. Such procedure permits not only the preparation of maps at lower costs, to larger scales, in greater detail and to greater accuracy but provides all forest activities with a working tool which can be used as a base on which to gather information concurrently with the preparation of a map as well as being used in its preparation.

This procedure permits accelerating of the work to be performed in connection with the war effort. Until such time as maps are completed, photographs can be employed to augment available inadequate maps. They permit study of the terrain at and adjacent to a going fire, indicating the conditions needed to be met, giving information on cover and relative slope of ground, all of which is needed for fire suppression and saving of timber already mature or which will soon be mature. They aid in selection of timber stands which can be cut for providing vital war material, providing information for management of cattle and sheep ranges, making important contributions to the war-time food supply, selection of location of access roads for routes over which war materials secured from national forests can be transported. When completed maps and photographs are available for conjunctive use, more efficient administration, protection and utilization is possible.

Plan of Work: For the fiscal year 1946, the plans contemplate reproduction of approximately 75 existing maps which are urgently needed because of exhaustion of supply, aerial photography of 40,000 square miles of area needed for timber, range, fire and other resources as well as map work, 20,000 square miles of planimetric maps; 2500 square miles of topographic maps in the Columbia or Missouri River drainages, purchase of needed surveying and mapping equipment and reproduction of 20,000 square miles of maps compiled from new photographs and control.

The aerial photographic and mapping work will conform to the Federal standards and specifications. The work will be done by the existing forest mapping organization, supplemented as necessary. For many years the Forest Service has had a mapping organization engaged in mapping required for the national forests. Its qualifications for the planned work have been thoroughly demonstrated by the war mapping conducted during the war. The unusually difficult mapping of 59 quadrangles in California and of 46 quadrangles in eastern states was executed at reasonable costs, all work was completed within the required time - very possibly a record was established in the East - and tested work fully proved ability to comply with the standards and specifications planned for the Federal mapping.

The aerial photographs will provide for (a) an area of the size to be mapped in the fiscal year, (b) a similar area to be mapped in following year - for efficient handling and low costs, aerial photography should be completed prior to starting control and mapping operations; (c) photographs for use in mapping and by resource divisions of Forest Service. The requested increase will cover planimetric maps of about 6% of the national forest area and topographic maps of about 1% of the area.

CHANGES IN LANGUAGE

The estimates propose several changes in the language of this item, as follows (new language underscored, deleted matter enclosed with brackets):

Change

No.

- National forest protection and management: For the administration, protection, use, maintenance, improvement, and development of the national forests, * * * ; [the maintenance and operation of aerial fire control by contract or otherwise, with authority to renew any contract for such purpose annually, not more than twice, without additional advertising] the
- 1 purchase of not to exceed eight airplanes; * * * ; [acceptance
- 2 of moneys from timber purchasers for deposit into the Treasury
- 3 in the trust account, Forest Service Cooperative Fund, which moneys are hereby appropriated and made available until expended for scaling services requested by purchasers, in addition to those required by the Forest Service, and for refunds of amounts deposited in excess of the cost of such work;] * * * ; and all expenses necessary for the use, maintenance, improvement, protection, and general administration of the national forests,
- 4 [including lands under contract for purchase or for the acquisition of which condemnation proceedings have been instituted under the Act of March 1, 1911 (16 U. S. C. 521), and the Act of June 7, 1924 (16 U. S. C. 471, 499, 505, 564-570), lands transferred by authority of the Secretary from the Resettlement Administration to the Forest Service, and lands transferred to the Forest Service under authority of the Bankhead-Jones Farm Tenant Act, §17,729,426: Provided, That this appropriation shall be available for the expenses of properly caring for the graves of persons who have lost their lives as a result of fighting fires while employed by the Forest Service: Provided further, That in sales of logs, ties, poles, posts, cordwood, pulpwood, and other forest products the amounts made available for schools and roads by the Act of May 23, 1908 (16 U. S. C. 500), and the Act of March 4, 1913 (16 U. S. C. 501), shall be based upon the stumpage value of the timber] \$17,349,100.

The first, third and fourth changes delete authorizations relating to (a) maintenance and operation of aerial fire control, (b) acceptance of payment for special timber scaling services, (c) expenditures for protection and management of lands under contract for purchase or subject to condemnation proceedings, and certain other lands transferred to the Forest Service, (d) care of graves of fire fighters, and (e) distribution of receipts from sales of forest products other than timber on the stump. All of these authorities are now provided in the Department of Agriculture Organic Act of 1944, approved September 21, 1944 (Public Law 425), and their retention in the annual appropriation act is no longer necessary.

The second change includes language authorizing the purchase of not to exceed eight airplanes. This language is necessary because of the inclusion of a paragraph (Section 203) in the Independent Offices Appropriation Chapter of the Budget prohibiting the purchase of aircraft by civilian agencies unless specifically authorized in the appropriation or otherwise.

Each year for several years past the Forest Service has been using increasing numbers of aircraft in fire control work in the more remote and inaccessible areas of the western mountains. Experience has proved the practicability and economy of aircraft use on limited areas in the West. No large-scale program is planned or necessary. Aircraft capable of operating safely over the high, rugged mountain lands in hot, turbulent summer air, and capable of landing and taking off from short, rough mountain fields at high elevations must have special performance characteristics. It is impossible to contract for all the needed airplane service and the costs of service are unnecessarily high because of the limited number of suitable planes available. It is the plan of the Forest Service to acquire planes most nearly capable of doing Forest Service flying and to make alterations where necessary. Acquisition of planes by the Forest Service will not greatly alter existing arrangements of contracting for airplane service since most of them will be flown under contract by commercial operators. However, ownership of planes should result in greatly reduced operating costs and, what is equally important, provide safe and suitable aircraft for this type of operation.

WORK UNDER THIS APPROPRIATION

General: This appropriation covers all activities relating to the administration, protection and development of the national forests except those provided for by the special appropriation for roads and trails, white pine blister rust, acquisition, and emergency fire suppression.

Objective: To manage, protect and develop the national forests and to utilize their timber, water, range, recreation, wildlife and other resources in a manner which will render the greatest possible service to the Nation as a whole.

Problem: Within the national forest boundaries is an area of 228 million acres, of which 179,100,000 acres are in Government ownership. Geographically this area reaches into 40 states, Alaska, and Puerto Rico. Many tracts of privately owned lands are interspersed within the Federal holdings.

The protection and management of so vast an area presents difficulties and complexities not commonly found in many other governmental undertakings. National forests are managed under the multiple use principle. This means that practically all areas are used for, or

serve, more than one purpose or objective. For example, 50 percent of the area within the national forests of the continental United States serves five different purposes, viz., timber production, watershed protection, forage production, wildlife production and recreation. An additional 28 percent serves four different purposes in varying combinations. An additional 21 percent serves three purposes. This leaves only 1 percent of the total which is reserved for one purpose exclusively, mainly, campgrounds and special use areas such as summer home sites, pastures, corrals, etc.

The above paragraph clearly demonstrates the necessity of careful planning in the management of the national forests, and brings into focus the interests which continually conflict and which must be reconciled by the managers of the national forest properties.

The protection of national forests from fire, insects, disease and trespass is made difficult by the large area to be protected, the general inaccessibility of the national forests, the many thousands of miles of exterior boundary, and the impossibility of taking preventive action when dealing with such a problem as lightning-caused fires (4,515 in the calendar year 1943).

Significance: The following is indicative of the economic importance of the national forests:

- (a) The area within the national forest boundaries is equivalent to some 10 percent of the area of the continental United States.
- (b) More than 23,000 sales and permits were granted in the fiscal year 1944 for the cutting of timber from the national forests. These contracts cover periods ranging from a few weeks to ten years.
- (c) They produced a cash income to the Federal treasury in excess of 15 million dollars in 1944 from the sale of timber products, grazing and land rentals.
- (d) They provide range for over 10 million head of domestic livestock.
- (e) Nearly 4,000,000 people who live in and near the national forests are supported in whole or in part through the management and utilization of them and their resources.
- (f) They provide watershed protection of municipal water supplies for cities and towns with a total population of approximately 6,000,000 as well as water supplies which are immensely valuable to agricultural interests.
- (g) They provide a habitat for a large part of the big game animals of the country, for millions of small game animals, birds, and furbearers.

(h) They provide a measure of assurance of a future timber supply. In 1944 only 3,333,000,000 feet out of an estimated allowable annual cut of 6,500,000,000 feet were removed from the national forests.

(i) They provided areas of land in large blocks already in Government ownership which are now being used for military purposes. Witness the transfer to the War Department of the Choctawhatchee National Forest, Florida, and the exclusive use by that Department of large areas of national forest land in Mississippi, Missouri, Colorado, Louisiana, South Carolina and California. In addition, many national forests have been used for maneuvers and for special military training projects. In excess of 2,900,000 acres of land have been turned over to military agencies by Act of Congress, executive or public land order, or by special use permit since the war began. The availability of these lands has saved the military agencies large sums of money in acquisition and rental costs.

Plan of Work: To facilitate administration, the national forest area is divided into 10 regions, 139 national forest administrative units, with 749 ranger districts averaging approximately 300,000 acres in size, or 7-1/2 times the area of the District of Columbia. The personnel of the basic organization, which is charged with the field administration and general operation of these geographical units, is also responsible for the protection of the national forests from fire, insect and tree-disease epidemics, and trespass, and for the integration of their management with economic and social problems of both national and local scope, in order that the natural resources of the national forests will contribute as fully as possible to the solution of such major problems as the production of needed timber and other forest products, utilization of forage without injury to the vegetative cover, flood control in major and minor watersheds, demands for outdoor recreation by millions of people, the permanency and continued prosperity of dependent communities, war activities, etc. The members of this basic organization manage all activities on their respective geographical units.

This basic organization is supplemented by fire guards and lookouts during the fire season; by temporary laborers or insect control planting, maintenance, construction, and survey projects; by cruisers, scalers, and lumbermen engaged in timber activities; and by the year-long technicians which are necessary for the proper handling of functional activities such as fire control, timber sales, range management, reforestation, etc.

Progress and Current Programs:

1. General management, operation and regulation of National Forest properties, including enforcement of Federal laws and regulations applicable to the national forests: This project provides for the basic (skeleton) regional, forest and ranger district organization, the members of which are directly responsible for all programs on their respective units. This means that they must constantly adjust their programs of work to meet the various pressures which are brought

to bear; by war conditions with their attendant demands on these land managers from the Army, Navy, WPB, etc.; by the establishment of working funds which necessitate the supervision of added work programs such as Access Roads, Timber Production War Program, etc.; by economic conditions which bring about varying demands for national forest timber and other forest resources; by emergencies, such as forest fires and insect epidemics; shifts in population, etc.

Following intensive studies of workloads and organizational needs, action was started in the fiscal year 1944 to consolidate a number of forests. Three consolidations were effected during the year.

2. Maintenance of improvements other than roads and trails: The following tabulation of improvements in existence at the present time shows the size of the improvement maintenance job on the National Forests:

64,186 miles	Telephone Lines
10,916 "	Firebreaks
3,152	Lookout Houses, Towers, and Observatories
70	Airplane Landing Fields
530	Pumpsets
4,151	Dwellings, Headquarters, and Temporary Stations
806	Offices
3,055	Barns, Garages, and Warehouses
3,995	Fences, Headquarters and Temporary Stations
2,119	Water Development Projects, Headquarters and Temporary Stations
103	Gas and Oil Storage Buildings
2,481	Sanitary Systems (Includes latrines)
208	Light, Power and Central Heating Plants
676	Bunkhouses, Barracks, etc.
7,520	Other Improvements, Headquarters, and Temporary Stations
22,919 miles	Range Fences and Corrals
4,279 "	Stock Driveways, Range
13,608	Water Development Projects, Range
4,416	Campgrounds
5,469	Campground Buildings
1,154	Water Systems, Campgrounds
261	Dams, All Types
533	Special Use Area Facilities
5,370	Other Improvements, Miscellaneous

During the fiscal year 1944 only a part of the total maintenance job was performed. Preferential treatment in the allocation of maintenance funds was, of course, given to those classes of improvements which must be maintained to the point of usability in advance of the field season. Improvements in this category are telephone lines, fences, lookout towers and water development projects. With the bulk of the funds available going to the above classes of improvements very little remained for allocation to improvements of other kinds. Some of these

improvements were maintained by fire guards and standby crew members, but the locations of these employees are dictated by fire control requirements, and only a minor part of the total job can be performed by these men. Another factor which limits the amount of maintenance work which can be assigned to these employees is their lack of experience. Most of the fire guards and standby crew members are 17-year-old boys, who are unskilled in the use of tools. Even though manpower is available in the proper locations, the employees are frequently not qualified to do the class of work necessary to properly maintain nearby improvements. Under these conditions the amount of improvement maintenance work which must be deferred is large.

3. Forest fire control, including prevention of fires and maintenance of detection and "smokechaser" organization: The National Forests include more than one-fourth of the timberlands of the country and produce a large quantity of the sawtimber, pulpwood, naval stores, forage, and other miscellaneous forest products important now to the prosecution of the war and later for postwar reconstruction. Within these areas are located also the headwaters of many important watersheds, power developments and transmission lines, aqueducts, transportation and communication lines, and many other improvements and resources which must be protected from damage or destruction by forest fires.

Harvesting forest products is a major industry in the timbered states while processing these woods products is big business in many others. The electrical energy used by many industries is generated by water from forest lands. Millions of animals graze the forage in the forests to produce essential beef, mutton, pork, hides, etc. A large part of the big game animals of the country depend upon forest areas for forage and shelter.

Forest fire prevention and control is as essential as the industries which harvest and process forest products. Successful forest fire control holds down fire damage, avoids diversion of manpower from essential activities to fight fires and reduces demand for critical equipment and supplies.

The forest fire danger in the United States in 1944, except for southern California, rated slightly lower than average. Southern California experienced a protracted dry spell during which many large fires developed and burned large areas principally outside but threatening the National Forests.

Forest fire control is an activity in which success is represented by the smallest number of man-caused fires, lowest damage, and lowest fire control costs. Success or failure of the fire control program for any one year depends greatly upon weather conditions, including lightning. Therefore, the record for any one year is best judged against the average results for a number of years. Some indication of the 1944 fire record on the National Forests may be obtained from the following table:

Year	Total Fires	Lightning	Man Caused	Area Burned Inside N.F.
1940	17,053	8,902	8,151	295,068
1941	11,953	5,621	6,332	251,187
1942	11,843	4,521	7,322	497,805
1943	11,829	4,515	7,314	319,613
1944	10,818	5,015	5,803	285,265
5-year average				
1940-44	12,699	5,715	6,984	329,788

The most significant fact disclosed by the table is the 21% reduction in the occurrence of man-caused fires. The drive for forest fire prevention carried on by all agencies, with the strong support given the drive by business and individuals all over the country, undoubtedly helped in keeping down the number of man-caused fires. Thousands of local resident cooperators continued in 1944 to assist local Forest officers in preventing and suppressing forest fires. Business men sponsored and paid for fire prevention advertisements, volunteered for fire suppression work and in Oregon over 300 of them gave up their summer vacations in order to work in the Forests as lookouts and patrolmen. The Army, Navy and Marine Corps were prompt to furnish, upon request, manpower to fight dangerous forest fires. In 1944 the military help on forest fires in the National Forests aggregated 70,000 man days. This labor, with the supplies and truck and plane transportation furnished, is evaluated at \$554,000.

Recruitment of seasonal fire control personnel from boys under 17 years of age, women, and older men, continued necessary due to the loss of experienced forest firemen to the military organizations and to essential war industries work. Because of their physical qualifications and inexperience, the hiring, training, placement and supervision of these recruits was a major task. In many cases two young men were necessarily assigned to do the job formerly accomplished by one experienced Forest Guard. Almost a thousand women were employed.

With continued shortage of experienced leaders it was necessary for fire control managers to plan for the utmost mobility of forces. Airplanes were again used for transportation of supplies, equipment and men. The fire fighting parachute squad of 126 trained parachuters made 526 jumps to 180 forest fires and conservative estimates indicate a savings of approximately \$109,000 over ground methods due to the smoke-jumpers' prompt arrival and suppression of fires in inaccessible locations.

4. Control of tree destroying insects and rodents on the National Forests: The outbreak of bark beetles in the Wasatch Mountains in northeastern Utah, which has been in an epidemic stage for the last few years, continued to be the most serious insect problem for the

National Forest system in Fiscal Year 1944. Good progress was effected in applying control measures in this area. Other epidemics, as yet of minor proportions but requiring control measures, were Black bark beetle outbreaks in the lodgepole pine type in northwestern Colorado and the Black Hills area of South Dakota. In Colorado there is a marked increase in the activity of bark beetles and budworms in the spruce type. No major control activities were feasible in Fiscal Year 1944. There are strong indications that a major epidemic in the spruce type may be in the making in the Central Rocky Mountain area. Incipient outbreaks of rodents in several forests in the western range states were promptly controlled.

The Forest Service continues to cooperate with the Bureau of Entomology and Plant Quarantine in surveys for the purpose of keeping a close check on possible new sources of epidemic attacks as well as on conditions in the areas on known endemic infestations.

Labor for control operations was again obtained by using farmers during their slack work period and high school boys below draft age.

5. Timber and forest products sales, free and administrative timber use, timber surveys, management plans, and timber stand improvements: Not only was the volume of timber cut from the National Forests under sales and exchanges in the Fiscal Year 1944 by far the largest ever recorded, but also the amount of increase over Fiscal Year 1943, which was the previous record high year, was the greatest ever experienced. This increase, which amounted to approximately 950,000,000 board feet, exceeded the total annual cut for any fiscal year prior to 1923 and the total cut in any of the fiscal years from 1932 to 1935 inclusive. This record cut which totaled 3,333,000,000 board feet was administered with the funds appropriated in the regular 1944 Appropriation Act plus a supplemental appropriation of \$145,000. It should be noted that in the justification statements for the 1944 appropriation an increased cut of 250,000,000 board feet was anticipated. The actual increase was almost four times this amount.

The high rate of cutting on the National Forests is in response to the urgent needs for lumber for the war effort. It also reflects the decreasing supplies of available private timber. The sales activities of the Forest Service in the last fiscal year have made it possible for many mills and logging operations to remain in production which otherwise would have been forced to close for lack of raw material and thereby increase the wartime lumber shortage.

In a few areas the amount of sales have exceeded sustained yield cutting capacity in order to maintain maximum lumber production. There has been, however, no lowering of the silvicultural standards or of sale administration. The average cost of conducting timber sales is quite modest in view of the wartime difficulties of effecting the necessary expansion of the Forest Service timber sale organization. The low cost is due in part to the utilization of areas which were made ready for sale in prior years. This stock of prepared sale areas is now practically exhausted and it will be necessary for the Forest Service to increase its

personnel working on sale preparation in order to continue to supply the needs for stumpage at present wartime levels. Some of the special problems encountered during the last year in conducting the timber use activities were as follows:

(a) Qualified timber sale and logging engineer personnel has been severely depleted both by the armed services and by transfers to important positions in the war agencies. Substitute and additional personnel lack both experience and training, and considerable expense is involved in bringing these new men to the point where they can serve as satisfactory timber sale officers and scalers.

(b) Numerous special services, both to timber operators and to the war agencies, have been provided in order to obtain the maximum contribution of National Forest products to the war effort. Special and unusual forms of stumpage, such as Noble fir for aircraft veneer and white oak for ship timbers, have been sought out. Sales have been expedited under the authorities granted to the Forest Service under the war powers acts or otherwise in order to prevent the suspension of lumbering activities. On numerous occasions operators did not bring their problems to the Forest Service until they were on the verge of suspending production, and the subsequent response of forest officers to avoid shut-downs resulted in more than normal expenditures in conducting sale business. The Forest Service has been deluged with timber sale applications, practically all of which are made on the claim that the proposed sales are necessary in order for the operator to maintain maximum production. Many of these applications have been found to be based on unsound premises in this regard, but in order to be certain that all valid applications are acted upon promptly, it has been necessary for the Forest Service to expend considerable effort in investigating the stumpage supply status of a large number of operators. The Forest Service has also used its timber sale personnel in providing direct services to the war agencies, as for instance, investigating for W.P.B. the needs of operators for priorities to purchase logging equipment or the soundness of proposed road developments under the Defense Highway Act for the purpose of increasing or maintaining lumber production. Another form of extra service is reporting to O.P.A. on volume and prices of all national forest stumpage sold in amount in excess of \$500.

(c) A third factor which is of significance, but somewhat intangible, is the educational program concerning the requirements of Forest Service sale contracts with operators who have heretofore had no experience with requirements and cutting conditions on National Forest lands. The present emergency demands for lumber and the shortage of private stumpage has resulted in the execution of hundreds of timber sale contracts with operators who had never expected to purchase National Forest stumpage. These operators must be brought to understand the meaning and interpretation of the provisions of these contracts in regard to cutting operations on National Forest land. This problem is further complicated by the extreme shortage of wood's workers, which results in a lack of control by the operator

over the actions of his employees. Hence, this educational process must be tactfully carried down to the individual wood's worker. In spite of these difficulties the cutting and silvicultural standards for National Forest sales have not been lowered.

In recognition of the rapidly expanding volume of timber sale business on the National Forests, a supplemental appropriation of \$596,000 was provided for the Fiscal Year 1945 in the Second Deficiency Appropriation Act of 1944. This was in addition to an increase of \$348,472 carried in the regular appropriation act for 1945.

Timber Cut in Sales and Land Exchanges

F. Y.:	Timber Cut MBM			Timber Receipts and Value of Timber Cut in Land Exchange		
	Sales	Land Exchange	Total	Sales	Land Exchange	Total
1942	1,559,702	645,047	2,204,749	\$5,042,905	\$1,586,199	\$6,629,104
1943	1,864,285	495,188	2,359,473	7,610,143	1,836,987	9,447,130
1944	2,840,134	493,395	3,333,529	12,623,795	1,738,876	14,362,671

The Alaska Spruce Log Program financed by the Commodity Credit Corporation, which was just getting into production on July 1, 1943, during the Fiscal Year 1944 delivered 31,000,000 board feet of high-grade spruce logs to mills cutting aircraft lumber in the State of Washington, and 29,000,000 board feet of hemlock and low-grade spruce logs to Alaska mills cutting lumber for military purposes in that territory. -- a total of 60,000,000 board feet of logs.

Since the close of the Fiscal Year 1944 an additional 5,000,000 board feet of high-grade spruce logs have been delivered to State of Washington mills, and an additional 13,000,000 board feet of hemlock and low-grade spruce have been delivered to the Alaska mills. Requirements for aircraft lumber for military purposes are now such that they can be met by commercial loggers in the States, and the Alaska Spruce Log Program is now in process of liquidation. Logging and delivery of all logs to the mills have been completed. Most of the assets of the Program have been sold and the receipts returned to the Commodity Credit Corporation capital fund, and other matters pertaining to the liquidation of the Program are progressing satisfactorily. Some of these, such as final settlement with contractors, however, involve points of law which require legal determination by the Solicitor of the Department and necessarily move slowly, but barring unforeseen difficulties the liquidation of the Program should be completed during the Fiscal Year 1945.

6. Allocation and issuance of grazing permits, supervision of range use by domestic livestock, range surveys and range management plans on national forests: The national-forest ranges have been under continuous administration by the Forest Service since 1905, and the grazing resource has been made to serve local communities and the general public over a period of 39 years to the maximum degree consistent

with its protection and sustained grazing capacity and in correlation with timber production, watershed protection, recreation, and the use by wildlife.

The practical application of the grazing policies which have guided range and livestock management, is reflected in the general stability of use by national-forest grazing permittees in different size groups. Little change has occurred over the years in the average number under permit within such groups.

It is estimated that one out of every four or five head of adult cattle and sheep in the western range States grazes on the National Forests for a portion of each year and the Forest ranges provide well over half of the feed required by all lambs marketed from these States.

During 1943, permits were issued to 34,100 owners to graze 1,322,400 cattle, 4,548,000 sheep, and 21,700 swine. This was slightly under the numbers grazed in 1942. In view of the pressure for greater meat production, special efforts have been required to hold livestock numbers as closely as possible to the grazing capacity of the Forest ranges -- to avoid repetition of the disastrous results following overstocking permitted during World War I in the vain hope of increasing the meat supply. This time owners have been encouraged to market inferior animals and replace them with younger and more productive ones. Forest officers have been instructed to grant nonuse for the duration where an operator voluntarily reduces his preference for the purpose of range protection, or where he sells or culls for the purpose of meeting increased marketing goals and is unable to obtain replacements. In other words, emphasis during the present emergency has been placed on improved management and livestock husbandry practices. Thus with better animals on full feed under effective management, the Forest ranges are enabled to make their maximum contribution toward the meat-production goal, consistent with the permanent productivity of the range and without placing an added burden on already overtaxed sources of supplemental feed supplies.

Range surveys have been discontinued for the duration, but they will occupy an important place in post-war plans.

	Calendar year 1942		Calendar year 1943	
	C&H	S&G	C&H	S&G
No. pay permits issued	19,041	4,798	18,897	4,582
*Livestock permitted to graze under pay permit	1,191,218	4,758,038	1,211,568	4,538,660
Livestock permitted to graze free	119,329	9,894	110,845	9,763

Receipts, F. Y. 1943	\$1,973,233	F.Y. 1944	\$2,458,965
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* Exclusive of animals under approximately 6 months of age which number approximately 4,000,000.

7. Protection of wildlife resource, preservation of forest conditions conducive to the propagation of wildlife, reduction in number of game animals in overstocked areas, wildlife surveys and management plans: Principal accomplishments during the fiscal year 1944 toward these objectives have been:

(a) Overpopulation or big game problem areas continue to be of major concern. Throughout the National Forests there are some ranges where deer, elk, moose or antelope have increased through protection until there are now too many animals for the available food supply. In the most serious places the browse and other important food plants have been closely cropped and killed and in severe winters many animals lost through malnutrition. To correct these conditions, independent and cooperative surveys have been conducted to obtain information on numbers of animals, their condition, the extent and condition of the range and related factors, and on some important big game forests these surveys have been a very essential part of the winter work load.

(b) Annual estimate of more important species on National Forests. Examples: 1,900,000 deer, 163,000 elk, 75,000 black bear, 9,800 big-horn sheep.

(c) Annual estimate of hunter harvest of big game. Examples: 193,000 deer, 26,000 elk, 5,700 black bear. The usable meat derived from the big game harvested on the National Forests is estimated at 27 million pounds, which at 20¢ a pound would be around \$5,400,000. In addition, it is estimated that about 12 million pounds of fish were taken from National Forest waters, to help in the American diet during wartimes. Moreover, the hides from big game animals produced on the forests helped provide soft leather for gloves and other uses of the military, and were channeled into the tanneries through a cooperative project worked out with WPB by the Forest Service, Fish and Wildlife Service, and the States.

(d) Checking big game use of browse and other plants for game management purposes since they now use about half as much of national forest forage as do cattle and sheep.

(e) Cooperative work with State and Federal agencies and other groups included (1) Management of cooperative wildlife areas, (2) Game law enforcement, (3) Deer hide salvage program, (4) Surveys and reports on civilian ammunition needs, (5) Continuation of essential cooperative game survey and management work other than (1), which has resulted in the adoption of State-Forest Service game management plans for certain problem areas on National Forests.

During the calendar year 1943, it was estimated that the public use of National Forest areas for hunting and fishing amounted to 2,000,000 hunter days and 2,374,000 fishermen days. Although public use has

declined from pre-war levels in the more isolated areas, there has been a continuation of hunting and fishing effort on National Forest lands near cities. This has been particularly true where the National Forests were near military camps and war industry centers. Actually in some areas hunting and fishing, in terms of man-days use, is greater than in pre-war years.

8. Enforcement of sanitary laws, garbage disposal, policing and other requisite measures for safeguarding health and safety of National Forest users: Because of their extent and diverse natural attractions the National Forests necessarily are subject to an enormous volume of public use for purposes of outdoor recreation both winter and summer. To serve such visitors and to protect the National Forest resources from additional fire risks and insanitary measures, it was found necessary and desirable to provide simple facilities and structures for shelter and sanitation so that the general public might continue to enjoy the benefits of the National Forest environment without creating undue hazards to the public safety, welfare, and property. At the end of calendar year 1940, through regular and emergency funds there had been constructed or made available for recreational use and enjoyment of the National Forests, approximately 4,250 camp and picnic areas, 201 swimming areas, 254 winter sports areas, 54 organization camps, and 11 hotels and resorts, the latter group constructed for the most part by other agencies and turned over to the Forest Service for administration. Additionally, up to January 1, 1941, there had been constructed under special use permit from the Forest Service over 300 organization camps, approximately 500 hotels and resorts, and in excess of 11,500 recreation residences.

Although war conditions temporarily have curtailed public uses of the national forests for recreational purposes, during the calendar year 1943 there were 6-1/4 million visits for recreational use and enjoyment of the facilities and services including resorts, organization camps, summer homes, improved campgrounds, and other recreational opportunities; the number of visits to tour the highways, roads, trails and water routes was about 11 million.

The decrease of use was an average one, not necessarily representative of all areas and locations. Abnormal population shifts caused an upset in the ratio of planned developments to expected use. Thus during 1943 some areas received such heavy use as to require additional sanitary installations and maintenance services while others received only slight use. Because of inadequate personnel and funds and an additional burden of work caused by the war, it has been difficult to maintain an acceptable standard of clean-up and maintenance on heavily-used areas. Maintenance and upkeep have been cut to the absolute minimum for safety, sanitation, and preservation of the Government's investment in the facilities. Essential policing for the enforcement of sanitary laws, garbage disposal, and other measures requisite to safeguard the health and safety of National Forest users has been continued to the extent possible in the circumstances.

9. Land use management on the National Forests, including rental of land; land classification; action on claims entered under the public land laws: As a measure of war economy and conversion to war activities, statistical reports showing the fluctuation and turn-over in such activities as the use of the National Forests under special use permit, claims by private parties to National Forest lands, and land classification, have been discontinued until the return of normal conditions makes their resumption practicable.

At the end of fiscal year 1941, the Forest Service had in force 44,010 special use permits covering nearly 2 million acres of public land, and over 20 thousand miles of telephone line, railroads, roads, pipe lines, drift fences, etc. Approximately 15%, or 6,621, of these permits were initially issued during the year, while 13%, or 5,738, of the permits in existence at the close of fiscal year 1940 were revoked, abandoned, or expired during fiscal year 1941. The turn-over in such permits requires administrative action additional to the normal supervision of uses which is requisite for the protection of government resources and the public interest.

Additional to the ordinary special use permits, 31 authorizations by the Forest Service or Department of Agriculture for the use of 845,458 acres of National Forest land were issued to war agencies during the fiscal year 1944 for the training of armed personnel and other war purposes. In addition, 8 areas, approximating 163,198 acres, were transferred by Act of Congress, or Executive Order. Up to June 30, 1944, the cumulative total of such areas was 127, comprising an aggregate of 2,957,826 acres of land under the jurisdiction of the Forest Service.

Occupancy of National Forest lands for purposes of commerce, industry, recreation, summer homes, residence and resort have continued. Fees paid for special uses of National Forest lands during fiscal year 1944 totaled \$455,271.13, an increase of \$62,561.77 over the previous fiscal year.

At the end of the fiscal year 1944, 16 oil and gas leases issued by the Secretary of Agriculture under authority of the act of March 4, 1917, were outstanding on lands under the jurisdiction of the Forest Service. Revenues from those leases in the form of bonuses, rentals, and royalties accounted for approximately \$61,376.71 of the special use fees paid in during the year. Of that amount, slightly more than \$8,300 was in the form of royalties from the two leases which thus far have obtained production. New departmental regulations, in the preparation of which the Forest Service assisted, became effective June 16, 1944. Simplification of procedure has already resulted in increased activity so that many new leases may be expected and additional revenue and possible production obtained.

Other mineral activity, for which responsibility has been delegated to the Forest Service, on lands acquired under the Weeks Law and amendatory and supplementary statutes and which are subject to the provisions of the act of March 4, 1917 (39 Stat. 1150), has increased

in the search for minerals needed to further the war effort. The Forest Service has issued a large number of special use permits covering prospecting and mining on such lands.

The war has brought about a new cycle of interest in the availability of National Forest lands for homestead purposes, especially on the part of persons engaged in the service of their country. During the year numerous inquiries about lands subject to the Forest Homestead Act of June 11, 1906, were answered, as were also those relating to homesites which may be obtained under the act of March 3, 1927, as amended by the act of May 26, 1934, on lands within the National Forests in Alaska. The majority of lands classified under the Classification Act of August 10, 1912, for homestead entry under the act of June 11, 1906, have either been entered and gone to patent, entered and abandoned or never entered because of lack of sufficient positive agricultural values or economic and social needs. Of those that were entered and abandoned or never entered, many have been reexamined. Such examinations during fiscal year 1944 resulted in a recall of parts of 24 lists covering 1931 acres of land in which an error was found in their original classification as chiefly valuable for agriculture and otherwise subject to disposition under the Forest Homestead Law. Two areas, embracing 185 acres, were reexamined and upon being found chiefly valuable for agriculture and not needed for public purposes were listed with the Secretary of Interior as provided by law for homestead entry. At the end of the year action was pending on 5 recall cases covering 478 acres and one listing covering 7-1/2 acres. Additionally, during the year 400 acres, more or less, in the Conecuh National Forest, Alabama, were examined as provided in the act of August 10, 1912, and their classification made by the Secretary of Agriculture.

Within and contiguous to the National Forests are almost two hundred thousand rural families. Of these, approximately 2,500 families occupy National Forest land, such occupancy in most instances being in effect at the time the National Forest land was acquired. The rehabilitation of the lands and structures thus occupied is regarded by the Forest Service as a highly desirable objective. Conditions created by the war have necessitated a cessation of positive activity in this field, but its resumption at the earliest practicable date is anticipated. Waiver or modification of fees to such occupants as are totally or partially unable to meet them because of the submarginal character of the land and lack of other means of support, was authorized by the Secretary several years ago and continues in effect where proof of such situation is made to the forest officer authorized to make such waiver or reduction of fees.

During the fiscal year 1944 the Secretary of Agriculture approved 77 exchanges under the Act of March 20, 1922 in which the United States will receive 306,500 acres valued at \$2,401,545 and will grant in exchange 38,419 acres valued at \$71,638 and National Forest stumpage worth \$2,257,589.

Accurate maps are essential for adequate and efficient protection, development, and administration of land and resources. These are generally prepared from aerial pictures which serve not only for map production but are valuable for practical resource activities such as fire control, range surveys, determination of the distribution and density of timber, and many other purposes.

Practically the entire surveying and mapping personnel was transferred to the War Mapping Program of the War Department. This War Mapping Project consisted of the preparation of topographic maps of 50 - 7-1/2' quadrangles in Southern California, 9 - 15' quadrangles in Northern California and 46 - 7-1/2' quadrangles in Maryland, Pennsylvania, Virginia, and West Virginia. The work was completed on June 30. Beginning July 1, the War Mapping personnel, with few exceptions, became engaged in the preparation of highly confidential war maps for the Navy Department.

Because of the above assignment, practically no surveying or mapping work was done by the Forest Service for its own use during the past fiscal year. Very few forest maps were prepared for publication.

10. Protection, development, and management of water resources of the National Forests: Work has been limited essentially to jobs arising from emergency watershed conditions resulting from fires. Investigations were made of extensive areas burned in 1944, for the purpose of determining need for and developing necessary plans for flood damage prevention measures. Emergency measures may be desirable in a portion of the areas burned. There was initiated detailed surveying and planning for upstream watershed work in aid of flood damage prevention to be accomplished after the war in the Los Angeles watershed.

11. Construction of improvements other than roads and trails: In the main, construction work on the National Forests is in a deferred status for the duration. However, a need occasionally arises for the construction of a telephone line, drift fence, water improvement or other type of project to facilitate the protection effort, the cutting of timber, or the management of stock on National Forest ranges. In 1944, construction work was restricted to projects of the highest priority -- those which could not be deferred without weakening protection or resource management.

12. Reforestation of denuded National Forest areas: In the fiscal year 1944 and so far in fiscal year 1945, reforestation work has consisted largely of nursery maintenance with the exception of small planting projects which it was possible to accomplish with conscientious objectors, high school students and volunteer groups, such as Boy Scouts. During fiscal year 1944, 5,010 acres were so planted. Output of trees from the nurseries has remained at a low level with 14 of the 25 Forest Service nurseries out of production altogether, and some of the seed beds of the other 11 sown to soil-improving crops. During the summer and fall of 1944, action was started at some of these 11 nurseries to collect seed and sow seed beds for production of trans-plant stock, which must be three or more years in the nursery beds before it is ready for

field planting. There has been very little or no activity at the other 14 nurseries.

The total area of National Forest land satisfactorily planted to date is 1,211,605 acres. There remain to be planted some 2,200,000 of denuded National Forest land. The planting of trees on these denuded and nonrestocking lands is with minor exceptions the only means of bringing them back into the productive condition.

(d) Fighting Forest Fires

Appropriation Act, 1945	\$100,000
Budget estimate, 1946	<u>100,000</u>

PROJECT STATEMENT

Project	1944	Estimate 1945	Estimate 1946	Increase or decrease
1. Fire suppression	\$1,298,780	\$ 67,000	\$100,000	+ 33,000(1)
2. Protection of unappropriated public forest lands	117,906	33,000	- -	- 33,000(1)
3. Overtime costs	84,960	- -	- -	- -
Unobligated balance	133,354	- -	- -	- -
Total estimate or appropriation	\$1,635,000	\$100,000	\$100,000	- -

INCREASES AND DECREASES

- (1) The increase of \$33,000 in the project for "Fire Suppression" and the decrease of an identical amount in the project "Protection of Unappropriated Public Forest Lands," is due to the elimination of the authorization for the protection of unappropriated public forest lands in the 1946 estimates.

The amount of the appropriation has not been reduced below \$100,000, it being generally recognized that the amount is nominal in character and the primary purpose of the appropriation is to authorize the Forest Service to draw upon other appropriations for emergency fire control obligations. When the summer fire season is over, it has been the invariable practice to pass a deficiency appropriation to reimburse the appropriations from which sums have been temporarily borrowed, and to provide funds for the spring fire season, which, fortunately, is much less severe and prolonged than the summer season.

CHANGE IN LANGUAGE

The bracketed phrase has been deleted from the language of this item in the 1946 estimates:

[and unappropriated public forest lands,]

This action removes the authority granted to the Forest Service during the fiscal years 1938 to 1945, inclusive, to protect, and arrange for the protection of unappropriated public forest lands. This authority has been used to protect only those unappropriated lands situated within the boundaries of organized protection districts. It is understood that the protection of these lands in the fiscal year 1946 will be provided for in an Interior Department appropriation.

WORK UNDER THIS APPROPRIATION

1. Fire suppression: This project covers emergency fire control expenditures on the national forests. Administrative restrictions placed upon the use of these funds by the Forest Service provide that expenditures shall not be made therefrom until forest fires have actually started. An exception is made to this rule, however, when fire conditions become so critical that the regular protective organization, which is financed from the appropriation "National forest protection and management," is unable to cope with the situation and when, therefore, the temporary employment of additional guards will clearly reduce expenditures for fire fighting.

2. Protection of unappropriated forest lands: Unappropriated public forest lands are widely scattered throughout the entire West. In many cases the National Forests, protective associations, organized to protect privately owned lands, and certain states, were compelled, prior to fiscal year 1938, to protect these public forest lands without reimbursement from an appropriate federal appropriation item. Through direct protection of public lands intermingled with National Forests, and under cooperative arrangements which have been worked out between the Forest Service and the timber protective associations and states, the Federal Government shares in the cost of protecting these public lands from an appropriation specifically established for this purpose. The accounts of cooperatives are audited by the Forest Service and the per acre cost of protecting the public forest land is based upon the total cost of protecting all of the lands within the boundaries of the protection unit. In the fiscal year 1944 the areas protected were as follows:

Intermingled with National Forests	792,184	acres
Intermingled with State & Association		
lands	2122,805	"
Total	2,914,989	"

The areas protected in the fiscal year 1945 will be approximately as listed above. In the fiscal year 1946 this project will be discontinued as a Forest Service activity.

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(e) Forest Management

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ESTIMATES SECTION
OFFICE OF BUDGET AND FINANCE

Appropriation Act, 1945	\$506,348
Proposed Consolidation in 1946 estimates from "Forest influences"	+ 86,762
Total available, 1945	593,110
Budget estimate, 1946	520,900
Change for 1946:	
Overtime decrease	- 72,118
Other decrease	- 92
	- 72,210

Note. - As indicated above, the estimates propose the consolidation of the item "Forest influences" with the item "Forest management". This proposal is made in the interest of simplifying the appropriation structure for research activities of the Forest Service and, in conjunction with another proposed consolidation involving "Forest Survey" and "Forest Economics", will provide for a more logical grouping of research funds into four items rather than six as heretofore.

PROJECT STATEMENT

Project	1944	1945 :(estimated):	1946 :(estimated):	Increase or decrease
1. Silviculture	\$301,041	\$315,402	\$315,400	- 2(1)
2. Forest protection	65,634	65,000	65,000	- -
3. Naval stores investigations	33,592	65,000	65,000	- -
4. Watershed protection..	74,548	75,590	75,500	- 90(1)
5. Overtime costs.....	67,277	72,118	- -	-72,118
Unobligated balance	1,427	- -	- -	- -
Total estimate or appropriation (1944 and 1945 adjusted for comparability)...	543,519	593,110	520,900	- 72,210

DECREASE

The decrease of \$72,210 for 1946 consists of \$72,118 decrease for overtime, and

(1) A decrease of \$92 to round off the appropriation total.

CHANGE IN LANGUAGE

The estimates include a proposed change in the language of this item as follows (new language underscored):

Forest management: Fire, silvicultural, watershed, and other forest investigations and experiments under Section 2, as amended, at forest experiment stations or elsewhere.

The word "watershed" has been added to this item because of the merger of the "Forest Influences" appropriation with the "Forest Management" item.

WORK UNDER THIS APPROPRIATION

Objective: To obtain the facts on which to base sound forest practices; specifically to supply the information needed by Federal, State and private agencies to reforest, protect, improve and manage forest lands and watersheds for the continuous production of maximum supplies of forest products and usable water supplies.

The Problem and Its Significance: The continued productivity of our forest area, about one-third the total area of the country, is of major concern to a large segment of the American people. Industries, communities, in fact whole local and regional economies are founded on the harvesting, manufacture, transportation, and merchandising of wood and wood products. Properly managed and rightly handled, these wood products can be produced not only on a continuing basis but their quantity and quality can also be materially increased. Improperly handled, our forest land cannot continue to meet National requirements.

This forest area is also the source of much of our water supply which in the West supplies about 90 percent of the total available water resource. Water from forested watershed supplies hundreds of communities with domestic water, furnishes many thousands of acres of agricultural land with irrigation water, turns the turbines of hundreds of hydro-electric plants, and provides recreation for many of our citizens. These forested areas also protect many communities and agricultural lands from destructive floods and harmful sedimentation.

Much of the lack of progress in improving woods practices, in regenerating and protecting the forest, and in safeguarding our water resource can be attributed to lack of adequate technical information on how to do the job. The tremendous complexity of American forest conditions creates such a variety of problems that only research on a national scale yet local in application, can provide the measures to cope with them.

Plan of Work: Research under this appropriation is conducted through 12 regional forest experiment stations. Much of the actual work is conducted on experimental forests where conditions representative of those found over a considerable area, permit concentration on major problems. A wide variety of detailed studies are made of various forestry practices and operations in their relation to growth and productivity of the land, to the difficulties of fire control, and to the yield and control of water. Water measurements are continually made on carefully selected drainage basins and the effect of changes in forest cover conditions determined. Continuity in work schedules and records is essential to the successful conduct of these investigations.

Progress and Current Program: The sudden shock of war necessitated major reduction in regular work and shifts to war-necessary projects. These war jobs are being continued. However, with this new work better organized, various adjustments made and a war program generally established, it has been possible during the past year to put an increasing amount of effort into the preparation of reports on past work and initiation of a small amount of new work directed at supplying information immediately useful in the war or needed for post-war resource rehabilitation. Some examples by projects follow.

1. Silviculture: This project concerns how to reproduce, grow and manage the forest and includes work formerly reported separately under Regeneration, Genetics, and Mensuration.

Experimental forests operated as pilot plants were continued on a reduced scale with emphasis on getting out as much timber for the war as consistent with experimental requirements. For example, eight million feet of ponderosa pine were cut from the Black's Mountain Experimental Forest in California, four million feet of maple and birch veneer logs, sawtimber, pulpwood and other needed products were taken from experimental forests in the Lake State, and cutting operations were opened upon the Hitchiti forest in south central Georgia in an area of stumpage scarcity.

Results showing how best to manage forests are increasingly accruing from these experimental forests; results that require a number of years of forest operation to produce. Here are three items brought out by analysis of measurements taken last year:

(a) On a 20 acre block in the Dukes Forest in the Lake States, two cuttings, one in 1926 and one in 1943, removed 55,000 board feet of logs and 350 cords of chemical wood. Yet the stand remaining today is more thrifty than ever before and has nearly as much volume as when first cut in 1926. Examples of good management like this that people can go and see on the ground are closely watched by forest managers as showing concretely what can be done.

(b) On the Fort Valley Forest in the Southwest 30 years of careful records on managed stands completed and analyzed last year give authoritative information on results of different cutting methods for ponderosa pine.

(c) On the Black's Mountain Experimental Forest in California, the effectiveness of a transportation system designed to make light cuttings economically feasible has been amply demonstrated. The light cuttings, removing trees most susceptible to insect attack have been effective in reducing losses. Areas lightly cut in 1937 still show a reduction in mortality of over 80 percent.

Besides experimental forest data, results obtained during the past year yielded much information needed by the timber manager during the war and in the post-war period. Some examples:

(a) Last year, development of sample log scaling methods in the Lake States and Rocky Mountains substantially reducing scaling costs was reported. This year, follow-up studies were made at a number of experiment stations to determine applicability under a wide variety of conditions. Based on these studies, general instructions on use of short cut scaling methods on the National Forests are being prepared. It is believed that in a few years sampling methods will revolutionize traditional practices and save many thousands of dollars annually in timber sale administration costs.

(b) Based on years of painstaking research, the bulletin "Reproductive Habits of Douglas Fir" was published during the past year telling the forest manager in detail how to get natural reproduction under various forest conditions and methods of cutting. Widely distributed to forest owners in the Douglas fir region, this report is exerting considerable influence toward improved management practices.

(c) Recent studies in the Northwest pile up additional evidence against the profitability of sending small trees to war. Cutting and skidding 6, 8, and 12-inch trees requires 10, 8, and 5.5 man hours respectively, per thousand board feet. Milling these baby trees wastes even more manpower, to saw 1,000 board feet from 6, 10 and 12-inch trees requires 9, 4, and 3 man hours, respectively. Translated into cutting practices, waste of manpower through cutting undersized trees makes an even more impressive story.

(d) Black spruce, a valuable pulpwood species growing in the swamps of the Lake States, has a reputation for lack of windfirmness often used as an excuse for destructive clear cutting. A recently completed study helps clear up this and a number of other questions. Some conclusions: (a) Windthrow in swamp black spruce is greatly overrated as a cause of mortality following partial cutting; 64 percent of the trees dying 5 to 6 years following cutting remained standing so obviously are not wind-killed; (b) cutting not in excess of 30 percent of the merchantable volume of trees over 6 inches d.b.h. (diameter at breast height) is desirable and practicable; heavier cuttings tend to increase mortality from all causes and reduce net growth.

(e) Large areas in northwestern Wisconsin are coming into young jack pine, much of it overstocked and in need of thinning. Tests show thinning in such stands can be made a paying proposition. In a 35-year-old stand, excess trees were cut yielding from 6 to 9 cords per acre. Cutting them on a commercial basis yielded a farmer 87 cents per hour for his time and the use of his team; a very decent wage for rural employment in midwinter.

(f) Information to guide stand improvement work after the war was obtained. Results five years following thinning, weeding, and other stand improvement operations by the Civilian Conservation Corps on a large number and variety of areas treated in the Appalachians were analyzed and a report brought to completion during the year. A 10-year study of releasing suppressed loblolly pine in the South by girdling valueless competing hardwoods shows the treatment to have been a paying proposition. In terms of labor return

1-1/4 extra cords growth per acre over the period was obtained for each man-hour expended and the beneficial effect of treatment will continue for many more years. A comprehensive survey of OCC stand improvement is now under way in the Lake States and is planned elsewhere. Such information will be invaluable in guiding post-war reemployment programs on forest lands. A much greater volume of this preparatory work needs to be done.

Research in planting has yielded some significant results:

(a) Cork is a strategically important material produced entirely abroad, and the Spanish cork oak tree will grow in certain parts of this country. Because of these two major facts there now exists very general interest in establishing American sources of cork. The same interest developed with the Spanish American War and World War I but was not followed up effectively. A major handicap hitherto has been lack of knowledge of where and how to plant and grow cork oak in the United States. As a result many attempted plantings have been unsuccessful. A limited research program to supply the needed information has been initiated in California, the Southwest, and the South. A considerable number of test plantings have been established and studies of seed storage and handling made. In cooperation with the University of California and one of the large cork companies a large number of seedlings have been distributed to interested land owners and additional acorns imported from Spain.

(b) Anticipating large-scale forest planting after the war, preparation of material to guide that program is being pushed ahead. In the Lake States, two comprehensive reports "Reforestation in the Lake States" and a "Lake States Nursery Manual" (for conifers) are well along towards completion, bringing together 20 years of extensive experience in growing and planting trees under Lake States conditions. A practitioner's handbook on forest planting in the Central States is being prepared and in the South revision is planned of Wakeley's "Artificial Reforestation in the Southern Pine Region", the bible of the southern forest planter.

(c) Successful methods of planting red spruce and red pine on devastated lands heretofore considered unplantable in the Appalachians have been developed, success depending in large part on skillful application and timing of a release cutting to remove vegetative competition. Similar work has been done on cottonwoods in the South and was published last year in the bulletin "Planting Cottonwood on Bottomlands".

(d) Some examples of current findings on research to develop better planting methods: A heavy dosage of fertilizer applied to nursery stock of loblolly pine during the late fall or early spring prior to outplanting has been found to increase field survival during drought years as much as 20 percent. This may mean a saving of \$3.00 per acre through an outlay of 30 cents in establishing adequately stocked plantations. Tests have shown it is possible to prolong

spring dormancy of hardwood nursery stock from 1 to 4 weeks by proper treatment with growth regulators. In this way, it may be possible to extend the spring planting season, normally of 3 to 5 weeks duration, by 25 to 80 percent, correspondingly increasing acreage planted and effective use of trained planting crews.

Tree breeding work has been continued on a reduced maintenance basis with no new work started. Considerable time during the past year was spent on analysis of data and preparation of several important reports that when completed will add some important segments to our meager literature and knowledge of forest genetics. Plans are being made for mass field planting tests of promising hybrids and new strains when planting is resumed after the war.

2. Forest Protection research: Main effort in fire research during the past year has been directed toward problems of immediate concern in intensified wartime forest fire control.

When the Eastern Defense Command requested the Forest Service to organize a network of fire danger warning stations in the 14 Eastern States, Research was asked to make an analysis of fire records by States to show how the fire load fluctuated with fire danger. Some striking statistics were developed of much significance in fire control planning. For example, in Virginia during the fall of 1942 and the spring season of 1943, 80 percent of all fires and 97 percent of the suppression load came on the 84 class 3 and 4 fire days out of a total fire season of 273 days. The suppression job on a class 4 day is almost 800 times greater than on a class 1 day and probably would be over 5,000 times greater on a class 5 day. One-tenth of the total seasonal suppression load of 17,000 man hours came on one peak load day in April. These figures emphasize that if state organizations are to get on top of their fire problem they must be organized to meet occasional severe peak loads.

Research-developed methods of measuring forest fire danger in the East have been widely adopted by Federal agencies and to a considerable degree by State and private agencies. Constant technical supervision is necessary to keep them working effectively. During the past year the Appalachian Station worked in 18 eastern states organizing and installing station networks. Ninety new observers were trained and many others checked at the 290 stations now functioning. Similar work was done by several experiment stations.

New findings blended with past work provided the basis for a complete revision finished during the past year of the fire danger rating system in California. From analysis of past fire records a uniform system was developed for determining needed manpower for different levels of fire danger on each protection unit.

Good progress was made in the development of cheaper and more effective methods of prescribed burning in the South. Fire is now used widely in the South but knowledge of good methodology is inadequate, costs are too high, and results are often unsatisfactory. In 1943 over 25,000 acres were prescribed-burned on the Osceola Forest in Florida

under close technical observation by research. Burning work was directed to reduce damage from wild fires, lessen suppression costs, and wherever possible was timed to aid reproduction by burning to improve the seedbed immediately ahead of seedfall, to precede chipping for naval stores, and to improve forage for cattle.

3. Naval stores investigations: Further progress has been made in increasing gum yields through research on chemical stimulation methods at the Olustee Experimental Forest of the Southern Forest Experiment Station. Several new and promising variations of the sulphuric acid treatment were developed during the 1943 season. Of the many chipping technics, application schedules, and chemicals tested, three treatments selected as outstanding are recommended to the industry for the 1944 season. Each has certain advantages and limitations and the producer can select the one best suited to the particular situation of the operator. These three treatments are:

(a) Early production step-up treatment for virgin timber. The greatest percentage increase in gum production with use of chemicals comes early in the season. Application of 40 percent sulphuric acid on slash pine and 60 percent on longleaf for the first 6 to 8 streaks has given from 53 percent to 103 percent more gum than the same number of untreated streaks on comparable timber. This treatment will appeal to operators who want to get their timber into full production early in the year and who may not be in a position to continue chemical application throughout the season.

(b) Periodic acid treatment. This consists of applying sulphuric acid to all streaks chipped during spring and summer months. No rigid schedule of chipping is specified. This treatment is designed for the operator who because of labor shortage or other reasons cannot chip regularly - every week is considered good practice. Acid treated streaks keep producing longer than untreated streaks. With weekly chipping of old faces a 40 to 60 percent increase with acid is obtained. If chipping and acid treatment is done every other week a 50 to 120 percent increase can be expected; every third week a 75 to 130 percent increase over no acid treatment.

(c) Skip acid treatment. Here the timber is chipped weekly but sulphuric acid is applied only every other week. Timber thus treated has in tests on the Olustee Experimental Forest consistently yielded 40 to 45 percent more gum than untreated timber. The chief advantage of this treatment is that a maximum increase is obtained from a minimum application of acid and labor.

A promising lead from research in 1943 not yet ready for general recommendation to the industry is bark chipping. This consists of a streak of the usual width made through the outer and inner bark but not into the wood. With acid, yields in excess of those obtained from regular half-inch deep chipping have been obtained experimentally and in addition the timber is but little injured by the chipping.

4. Watershed protection investigations:

More water for municipalities: Many small communities derive their municipal water directly from nearby small watersheds. When over-demands reduce the supply below safe limits, expansion to other sources cannot quickly be made. In the Piedmont section, such shortages can be met in part by reducing the amount used by the vegetation. Cutting the large vegetation adjacent to the stream and along its small tributaries removes the heavy water users. These trees and shrubs often have their roots in the high-yielding water zone, and are responsible for much of the daily fluctuation in streamflow. A saving of as much as 10 percent in the water yield of watershed can be effected in this manner during the growing season and heavier cutting in a watershed would save still more water, both through use and through a reduction in evaporation from tree crowns following rains. As much as 50 percent increase in flow could thus be obtained.

More water for irrigation: Agricultural expansion in many irrigated areas has resulted in overuse of the water supply. Severe water shortages develop periodically with attendant recurring crop failures. As most irrigation water is derived from forested watersheds, a change in the cover may be reflected in streamflow. Investigations show that additional water can be obtained from these basins. Thus, by removing certain types of lodgepole pine trees, evaporation from snow held by their crowns is prevented and snow caught in the openings thus made melts slowly and is absorbed into the ground. Studies show that when certain cutting methods are used, the cutting of 5 acres of timber in this type will conserve sufficient water to irrigate one acre of valley land.

(f) Range Investigations

Appropriation Act, 1945	\$288,475
Budget estimate, 1946	<u>250,000</u>
Change for 1946:	
Overtime decrease ... -38,475	
No other change - -	<u>-38,475</u>

PROJECT STATEMENT

Project	1944	1945 :(estimated):	1946 :(estimated):	Increase or decrease
1. Grazing management ..	\$201,851:	\$203,600:	\$203,600:	- -
2. Range reseeding	45,741:	46,400:	46,400:	- -
3. Overtime costs	37,369:	38,475:	- -:	-\$38,475 (1)
Unobligated balance	2,408:	- -:	- -:	- -
Total estimate or appropriation	287,369:	288,475:	250,000:	-38,475

- (1) Decrease of \$38,475 due to elimination from the 1946 estimate of the fiscal year 1945 overtime cost.

WORK UNDER THIS APPROPRIATION

Objective: To develop better methods for managing the range lands of the nation, to promote and protect the welfare of livestock producers, and to provide for a sustained high production of range forage and livestock products.

The Problem and its Significance: The range lands of the West, South, and Southeast have furnished an important part of the forage which has sustained the greatest number of livestock in the history of our country. As a result of these large numbers of livestock, heavy grazing and range deterioration have continued to increase. A three billion dollar industry is based upon these range lands and from them and correlated agricultural production come 80 percent of the nation's wool and mohair, three-fourths of the live weight of sheep and lambs, and more than half the live weight of cattle and calves. There is an ever increasing demand for beef, veal, lamb, and hides, so it is essential that the range resources of the nation be improved and maintained in a highly productive condition. Better grazing management and reseeding of depleted areas are the keys to sustained high and profitable production of range livestock.

General Plan: Range investigations funds and personnel will continue to be used in support of the war effort. Long-time studies will continue on a maintenance basis and the work will consist primarily of urgent short-time field and laboratory experiments directed at greater production of livestock products through better range management. Cooperation will be continued with the various State Agricultural Experiment Stations, the Agricultural Research Administration, and other

Federal agencies, and farmer and stockmens' organizations to help solve their most pressing problems concerning range livestock production. Direct assistance will be provided the War Food Administration in its production programs and the armed forces, as requested.

Examples of Progress and Current Program: The following examples of recent accomplishments under this appropriation indicate progress in promoting better range management and greater livestock production and in supporting the war effort.

1. Grazing management investigations: Through this project are developed better ways and means of maintaining, improving, and utilizing the range-forage resource and thereby increasing calf and lamb crops, reducing death losses, attaining larger and more rapid weight gains of market animals and more efficient production of meat, hides, and wool. For simplification, the Range Forage Investigations project has been consolidated with the Grazing Management Investigations project and is reported here rather than separately as in the past.

(a) Aided in the formulation of the 1944 and 1945 National and State wartime production and marketing goals for feed, livestock, wool, hides, and other critical livestock products.

(b) Aided in determining maximum wartime production capacity for agriculture and estimating a desirable long-time post-war production bench mark, especially for livestock, range forage, feed, and other related crops.

(c) Continuation of efforts to keep the number of livestock on the range in balance with yearlong forage and feed supplies. This includes active participation in formulating and carrying out programs for earlier and heavier marketing of range cattle.

(d) Review and appraisal of the adequacy and soundness of State post-war planning reports with regard to range conservation and development and livestock adjustments related to use of range lands.

(e) Continuation of direct assistance to the War and Navy Departments and other agencies by furnishing information on range plants and their possible uses.

Other accomplishments include:

(a) The forest-grazing studies initiated in Louisiana in the summer of 1943 under specific congressional appropriation, have borne fruit in Louisiana Experiment Station Bulletin 380 which presents the results of an exploratory survey of problems and current grazing practices. Sixty-nine percent of the year-long sustenance of cattle in the State comes from forest range, and a considerable increase in beef production appears possible through application of better management. Where cattle herds

are provided adequate range forage and other feed, calf crops of 65-85 percent are produced, calves weigh 350 pounds or more at weaning, and herds suffer death losses of only 2 percent or less. These are in contrast to 30-40 percent calf crops, 300 pounds or lower weaning weights, and losses of up to 6-8 percent where inadequate feed is provided. One of the most urgent problems confronting stockmen in the South is an understanding of the true grazing value of native forage plants to determine desirable intensity and season of use. The cooperative studies with the Georgia Coastal Plain Experiment Station have resulted in State bulletin 37 which has provided the basis for identification and a better understanding of the forage values of the important native and other range plants and of the best time of year to use those plants. A similar publication is in preparation for North Carolina forage plants. Also from the North Carolina work has come a State publication dealing with some of the stock poisoning plants of the State. This bulletin makes possible a better recognition of these plants on the part of stockmen and proposes certain grazing management practices for avoiding them so that death losses from poisoning can be markedly reduced.

(b) During this war period many stockmen have heavily stocked their ranges. Studies of heavy, moderate, and light stocking for four summer seasons on shortgrass Plains ranges of Colorado show that greater weight gains are made on yearling heifers under moderate and light, than under heavy grazing. Moreover, under moderate and light grazing, ranges in good condition were maintained in a state of high productivity and those which were deteriorated, recovered considerably during the four-year period; while under heavy grazing, considerable damage was done to the range in the form of decreased production of palatable grasses and thinning of the grass cover. This range impairment progressively increases the cost of livestock production. Somewhat similar results were obtained on mountain bunchgrass summer ranges stocked on a heavy, moderate, and light basis during a two-year period. Greatest production was obtained under the moderate rate of stocking and returns to the producer were almost double those from heavy stocking. At the San Joaquin Experimental Range, it was found that moderate grazing of annual type range in California, which covers more than 25 million acres, encourages earlier growth of the forage plants, thus making it possible to begin grazing 2 to 3 weeks sooner than on more closely grazed ranges. Moderate grazing allows improvement in soil fertility, fosters the most desirable mixture of grasses and legumes in the forage, and in general makes possible maximum sustained livestock production and income. Simple guides to enable the stockmen to recognize when their annual range has been grazed moderately have been published.

(c) Analysis of costs and returns from grazing on the Jornada Experimental Range in New Mexico, shows that satisfactory financial returns to the operator are due largely to benefits

derived from conservative stocking and other practices that have been widely recommended and adopted as conservation measures as a result of range research. Any additional weight which may be produced as a result of stocking the range with greater numbers of animals costs so much as to diminish the returns from the entire operation.

(d) Adding to the information already developed for other range types and in other regions, principles and indicators for judging condition and trend of subalpine ranges were developed in the Intermountain region. On these watersheds, so important in water delivery for irrigation and municipal use, it is very important to recognize the condition of soil as well as of forage and the potentialities for improving conditions through better range management and revegetation. The species, which in Colorado and Wyoming, form the key to recognizing range improvement or deterioration and planning range management, were also critically evaluated.

(e) Control of noxious plants is a problem of great importance to stockmen on practically all ranges. In the Southwest, for example, invasion of mesquite on grasslands reduces the grazing capacity, makes handling of livestock difficult, and increases loss from screwworms. Practical methods of control consist of hand grubbing, the use of power equipment or chemical treatment. Costs range from as little as a few cents per acre where the shrubs are small and scattered to \$3.00 or more on more heavily infested areas.

(f) Several important studies were concluded. In the Intermountain region, studies show that livestock are usually removed from wild hay meadows and turned on spring range several weeks too early for best results. Later spring grazing of the meadows increased appreciably the amount and quality of forage harvested by the grazing animals and as hay, and relieved low-lying foothill ranges from damaging early grazing. Study of consumption of salt and bonemeal through the year on Montana ranges, in cooperation with the Bureau of Animal Industry, shows that the need for these important supplements to range forage is greatest in the fall just prior to weaning and considerably less through the winter. Browse ranges of Arizona grazed both by goats and cattle tend to deteriorate and erode unless the perennial grass stand is maintained. This requires that very light use be made of the browse. Goats alone make best use of the range without damaging the grasses. The question of whether livestock and big game compete for forage has long caused concern to both stockmen and sportsmen. Studies on high summer ranges in eastern Oregon and Washington show that elk and sheep compete directly for forage, especially forbs. This points to the need for careful attention to the management and numbers of both big game and livestock in order to prevent overgrazing and range deterioration and keep these ranges productive for the mutual benefit of both stockmen and sportsmen.

2. Range reseeding investigations: This project seeks to devise artificial reseeding methods for economically increasing forage production on ranges that have been too seriously depleted to be improved by proper grazing management alone.

The high forage yields from the more than 3 million acres of western range land seeded in the last decade, have played an important part in maintaining peak livestock production for war. As soon as labor and equipment are available, reseeding will doubtless enjoy rapid expansion through the application of research results to date. In addition to the need for reseeding deteriorated range lands, there will be an immediate need to regrass several million acres of range land which have been plowed to produce grain during the war, but which cannot economically continue under cultivation. This should be accomplished before low-value weeds take over the abandoned crop-lands.

(a) Continued aid to the armed services in establishing and maintaining a protective cover of vegetation for dust control, and fire hazard reduction on air fields, cantonments, arsenals, and other such establishments in the arid and semi-arid West.

(b) Release of additional popular, easy-to-read guides for reseeding specific ranges in the West. Recommendations for seeding denuded summer-range lands and burned-over timber lands in Oregon, for example, have been published in Oregon Agricultural Experiment Station Bulletin 159. Detailed instructions for drilling and broadcast seeding that will increase forage production from 5 to 25 times or more are given. Costs vary from 80 cents to \$3.50 per acre and are entirely justified by benefits. In cooperation with the Extension Service of the University of Idaho, instructions on where, what, when, and how to reseed and how to graze reseeded range lands of southern Idaho have also been published.

(c) Empirical plantings to check and demonstrate the practical values of experimental results. For example, depletion of their spring-fall ranges has forced many small Utah sheepmen to hold their ewes in the feed lot for lambing. Comparisons of costs and weight gains have been made between that practice

and grazing reseeded range. Spring weight gains in lambs were from 5 to 8 pounds greater on seeded range than in the feed lot. Wet ewes also gained more weight on the range and their better milk production probably accounts for the high lamb gains obtained. Prorated over a ten-year period, costs of grazing on range seeded to crested wheatgrass would amount to 7 cents per sheep month and on range seeded to rye, to 15 cents; the present feed-lot costs are 45 cents per sheep month.

Other accomplishments and programs include:

(a) A two-year study of selective grazing of eight grasses widely used in seeding ranges, concluded on a spring cattle range in Utah, shows that most of these grasses are highly palatable. This information indicates that six of these are more suitable and that they would be grazed more or less uniformly if planted in mixtures.

(b) In one community in Utah, where there is an extreme shortage of spring-fall foothill range, reseeding tests were established which provided forage for 200 of the 800 cattle grazed in that community. The cattle grazing the seeded range gained an average of 2 pounds per day and greatly relieved the pressure on the surrounding, badly depleted range.

(c) Vast areas of spring range in the West have been taken over by cheatgrass brome, a low value grass which provides such heavy competition to reseeded species that they seldom prove successful. Studies of the use of a preparatory crop, such as wheat, oats, or barley, and reseeding in the stubble, appear to offer real possibilities for improving many cheatgrass ranges economically. Under present heavy demand and good prices for wheat and other grains and for hay, preliminary results indicate that a one- or at the most two-year grain or hay crop not only destroys the cheatgrass and provides a suitable stubble into which valuable perennial grasses can be seeded, but also may pay a large part or all of the seeding costs. If further study shows that this method is generally effective, it offers great opportunity for restoring these lands to far more productive range. Also it can be used to advantage to restore sub-marginal cropland to range when demand for grains is not so heavy.

(g) Forest Products

Appropriation Act, 1945	\$1,147,519
Budget estimate, 1946	<u>1,228,900</u>
Change for 1946:	
Overtime decrease ... -146,139	
Increase +227,520	<u>+81,381</u>

PROJECT STATEMENT

Project	1944	1945 :(estimated):	1946 :(estimated):	Increase or decrease
1. Conditioning and protection of wood products ...	\$ 260,885	\$ 301,400	\$ 357,500	\$ +56,100 (1)
2. Properties investigations and wood products development	450,753	455,880	524,580	+68,700 (1)
3. Pulp and paper	106,239	116,900	145,000	+28,100 (1)
4. Chemically converted and derived products	113,450	127,200	201,820	+74,620 (1)
5. Overtime costs	132,213	146,139	- -	-146,139
Unobligated balance.....	19,801	- -	- -	- -
Total estimate or appropriation	1,083,341	1,147,519	1,228,900	+81,381

The net increase of \$81,381 for 1946 consists of \$146,139 decrease for overtime and an increase of \$227,520 as follows:

- (1) An increase of \$227,520 for research to improve and broaden the utilization of forest products.

The need for the increase: In converting wood to useful commodities the waste in the woods and mill, sawdust, tree tops, broken trunks and cull logs amount to about two-thirds of the wood in the forest. In addition there are inferior species and low quality trees of good species which are now left uncut because it is unprofitable to handle them. The result of all this has been an overcutting and degrading of our forests and woodlots to the point that nothing profitable can be done with the scrubby growth on thousands of acres of such lands. It is only through better harvesting and utilization methods that such forests and woodlots can be put on a sustained yield basis and their quality improved.

New methods must be developed by which waste may be chemically or otherwise converted into useful products. The chemical conversion of mill waste to industrial alcohol or to high protein feeding yeast for livestock is an example of what research has been able to do with the waste problem. Much more can be done.

To promote expanded and improved forest utilization in various forested regions of the country it is proposed to establish in each a utilization service composed of competent technicians who will bring the findings of forest products research to the many small woodworking plants in these regions, study their problems and assist in solving them. Such small manufacturers will not be the only beneficiaries of this plan. The land owner including the small woodlot owner such as the farmer who derives part of his income from the sale of timber, the user of forest products, the forest and mill worker, and forest communities will all benefit.

Most major discoveries need to be carried through the development stage before they are ready for commercial use. There are a number of promising processes and products now awaiting pilot plant demonstration. Small plants that have neither the facilities nor the means for pilot plant development would be particularly benefited. A part of the increase will be used for this purpose.

The many new and improved developments in wood utilization that have resulted from the war should be directed toward peacetime uses and the momentum of wartime developments should be maintained if wood is not to be outmoded for those uses for which it is most suitable. The outstanding developments in containers and packaging for war equipment and supplies and in laminated construction for naval vessels and other items are examples of accomplishments that have large peacetime significance.

The Problem and its Significance: In the past, the major utility of wood has been to produce shelter and fuel. Progress in the basic principles of science has greatly expanded the potentialities of wood as an industrial raw material for chemical conversion and for use as wood. The application of research to wood as raw material may be confidently expected to create new industries and render the old more efficient.

Utilization up to the present has been opportunistic, unbalanced, and poorly integrated. The result has been the overcutting and culling of forest stands, leaving idle lands or nonproductive forests. Improved utilization, which is possible through expanded and continued research, and the industrial application of the results, requires the development of new methods of conversion that will transform the wood crop into useful goods, including the present huge piles of sawdust and other waste. Such utilization may be obtained not only without impairing the productivity of the forest, but will actually result in greater growth and better balanced and more useful forests. The utilization of the forest resource through direct application of advanced industrial techniques will give direct support to an increased number of workers in the woods, mills and factories and will contribute to the support of many thousands of farm families. The following program is directed toward accomplishing these ends:

(a) Chemical conversion: Mill and other wastes have as much chemical value as the finest, cleanest piece of lumber. Such wastes aggregate 60 million tons a year. Chemical conversion offers the best apparent means of using many types and qualities of wood waste.

The cellulose of wood can be readily and cheaply converted to sugar from which 50 to 60 gallons of industrial alcohol per ton of dry wood have been obtained. This cheap sugar may also be converted to other products. Research is needed to increase alcohol yields and to develop other products. Especially important in the utilization of scrub forests of hardwoods is the conversion of wood sugar to high protein feeding yeast. There is need for the development of techniques applicable to small units, so that the process may become generally adopted and assume its potential importance in furnishing a protein base for the agricultural industry on impoverished and limited lands in heavily wooded areas.

In the production of wood sugar, one fourth of the wood by weight remains as lignin which, on a laboratory scale, has been made to yield valuable phenols and cresols and a whole series of potentially more valuable chemicals. Research can provide the opportunities for commercial development of these products.

(b) Low grade and little-used woods: Research must contribute technical information for solving problems relating to the use of species and types of trees that cannot be profitably harvested and marketed under present conditions. Profitable utilization of these woods will not only aid the establishment of good forests and higher values on millions of combed-over acres but will create or restore employment, stabilize forested communities, and more equally distribute use of our forest resources.

There are the possibilities of effecting substantial economies in harvesting by improving equipment, developing cheap methods of utilizing small-sized material, developing cheap preservatives and methods of application to permit use for poles and fence posts, and developing new methods to season material which now suffers great damage in drying.

(c) Advanced technology: An economy of abundant forest resources used to their fullest capacity must not only depend upon broad new uses and the chemical utilization of waste wood; but, wood itself must maintain its place in those normal fields of use constantly contested by old materials refined by science and by new materials of scientific origin.

War has compressed into a short space of time technological developments in wood utilization that normally might be spread over a period of years. These advances must be directed toward the tools and goods of peace, and the momentum of technological development gained in war must be maintained so that wood may never be outmoded for these uses to which it is inherently best adapted.

There is need for technological advances in the use of wood as an engineering material, in its conditioning and protection, and in its use in the field of secondary manufacture into everyday commodities.

(d) Pilot plant investigations: There is often too much of a time lag between the discovery of a process or product by forest products research and its industrial application. To overcome this, most major discoveries need to be carried through the pilot plant stage before they are ready for commercial use.

No adequate mechanism exists at present for actually demonstrating a new technique, resulting from publicly financed research, or for developing it through the production stage. Industry is hesitant to venture into untried fields for which no form of limited protection is granted through patent control. While it is highly desirable that public findings be protected by public patents, it is equally desirable to get the results of research into industrial practice. With no provision for exclusive licensing existing today, pilot plant trail becomes all the more necessary.

Pilot plant demonstrations of some of the more promising products and processes should be undertaken.

(e) Forest utilization services: Fully developed, well diversified forest utilization, properly integrated with the capacity of the areas to produce timber continuously, should increase income to the landowner, create jobs and a market for forest products, create wealth, enlarge the tax base of the area, and give permanence to the status of the communities having timber resources. The solution to this problem lies in the field of developing diversified manufacture so as to use in one general locality for various purposes the many species and grades that make up the forest. The general idea of diversified and integrated utilization has been developed on a partial scale in a few localities, but the whole idea needs stimulation and wide dissemination.

This need can be met by establishing specialized services composed of competent technicians in at least seven regions, the Northwest, California, the Northern Rocky Mountain, the South, the Northeast, the Central and Lake States, and the Appalachian region. These services would study the forest resource from the point of view of conversion, determine what needs to be done to meet local problems, study them in the light of new technological developments, transmit problems to the Forest Products Laboratory which need solution there, and in general do whatever possible locally to promote expanded and improved forest utilization.

(f) Cutting and logging practices: A sound utilization program must include consideration of the forest as the source of the continuing flow of products necessary to sustain a profitable forest industry. The kind and volume of trees removed today

vitally affects future yields and opportunities for profitable utilization as well as present returns. Similarly, the way in which forest transportation systems are laid out under present logging methods greatly affects future as well as present logging costs and marketability of the stand. Utilization without regard to the future of the forest means destructive spoilation and ultimately stoppage of the flow of raw products from the forest.

For example, integrated utilization in the Pacific Northwest built on Douglas fir will run into serious difficulties if management practices are not followed that will perpetuate Douglas fir in sufficient proportions to other species. Expanding markets for pulpwood in the Lake States and South, together with less accessible timber supplies and resultant rising raw material costs, has put a premium on the development of more effective and cheaper methods of producing pulpwood. This can be accomplished through better cutting methods involving closer utilization of thinnings, tops, etc.; and improved pulpwood loading, transportation, peeling, and other equipment.

Plan of Work: Under the expanded research program of forest products utilization it is proposed to immediately undertake the following phases:

- (a) Increased chemical conversion investigations such as hydrolysis, hydrogenation, and development of plastics especially to utilize mill and other wastes.
- (b) Harvesting and utilization studies of low-grade and little-used woods.
- (c) Advanced technology.
- (d) Conduct certain pilot plant investigations and demonstrations so that the most promising products and processes available from fundamental forest products research may be put to commercial use at an early date.
- (e) Establish forest utilization services consisting of competent forest products technicians to put the results of research to work on local forestry development.
- (f) Development and application of cutting and logging practices that will yield a sustained volume and quality of raw materials from the forest under a comprehensive utilization program.

Most of the work under phases (a), (b) and (c) will be done at the Forest Products Laboratory, that under (d) will be conducted by the Forest Products Laboratory technicians both at Madison, Wisconsin, and in the field, and most of (e) and all of (f) will be carried on principally in the field under the direction of the Forest Experiment Stations.

WORK UNDER THIS APPROPRIATION

Objective: To provide the research and technical services required for the development, conditioning, production, protection and conversion of forest products for war and essential civilian uses.

The Problem and its Significance: The demand for natural, modified and converted wood to meet the varied wartime needs continues at a high level. Accompanying this extensive use of wood products are innumerable problems that require solution.

The need continues for new and improved wood, plywood and fiber containers for shipping war supplies and food. Not only must the containers protect the contents during shipment and storage but it is highly essential that they be economical of material and save critical shipping space. Performance requirements and techniques of application must be worked out for newly developed packaging materials. Instructions must be prepared or revised for the export packaging of equipment and supplies.

To help relieve the critical lumber situation improvements are needed in the operation of small sawmills. The continued paper shortage can be alleviated in part by the development of methods for increasing the yields of pulp from the wood used.

The continuing extensive use of wood for boats and ships, military vehicles, and many other items demands the improvement and development of techniques for the production of laminated members, plywood and other glued products; the protection of wood against decay, insects, marine borers and fire; improved selection and storage; suitable bending methods and more rapid seasoning.

While much fundamental design data on the use of wood, plywood, and other wood products has been developed, much remains to be obtained if these materials are to serve most efficiently in all wood or metal and wood aircraft structures, including high speed and jet-propelled aircraft.

Research is needed to develop commercially practicable methods for producing the many essential chemicals that can be derived from wood. Waste wood from logging and milling operations is an ample and low-cost source of raw material.

The need continues for determining the properties and suitability of less popular woods for conventional uses to help relieve the demand for popular woods, the supply of which for certain uses remains highly critical. With wood playing such a vital part in meeting the nation's fuel requirements, improvements are needed in methods of preparing and transporting fuel from wood and wood waste and in the convenience and efficiency of burning it.

General Plan: Most of the technical work and research under this appropriation is being conducted at the Forest Products Laboratory, Madison, Wisconsin. Over 95 percent of the Forest Products Research appropriation is devoted to meeting wartime requirements. The small amount of "non-war" work now underway includes those investigations that are required to preserve the results of past research, the abandonment of which would be uneconomical. The work is being conducted in close collaboration with the Army, Navy, War Production Board, Office of Price Administration, National Advisory Committee for Aeronautics, War Food Administration, Civil Aeronautics Board and other war agencies and manufacturers with war contracts.

Examples of Progress and Current Program:

Conditioning and protection of wood products: Technical consulting services were furnished a number of boat and ship yards, at the request of the Army and Navy on construction problems of various types of wood boats, including 110-foot deck cargo barges and 85-foot aircraft rescue boats. Cooperated with the Bureau of Ships in revising specifications for fire-retardant lumber and timber and investigated the effectiveness of various retentions of the different treating formulas recommended. Prepared a manual covering the structural repair of wood airplanes entitled, "Repair of Wood Aircraft Structures," which was issued as a joint publication of the Army Air Forces, Navy Bureau of Aeronautics, and the Air Council of the United Kingdom. At the request of the Army Air Forces observations and examinations were made at three repair facilities and two glider training centers and recommendations made on storage, inspection for repair, and repair of gliders. Preliminary investigations were completed of 45 adhesives for the gluing of wood to metal in aircraft. Kinds and quantities of preservatives suitable for the protection of soybean and other protein glues from mold and decay, and the treating of plywood made of these glues by simple methods, were worked out and incorporated into Army Ordnance and Army Air Forces specifications for plywood shipping containers. Inspection service was furnished the Corps of Engineers on paint problems of Army cantonment buildings, and a program of paint maintenance was recommended governing the necessity of repainting during the war. Cooperated with the Army, Navy, and other federal agencies in the preparation and revision of a number of materials specifications including glues of the low-temperature setting phenolic, cold-setting urea, and metal-to-wood types; preservatives and water-repellent materials; and process specifications for the application of low-temperature setting phenolic, melamine, and resorcinol glues and for the laminating of ship timbers. An inexpensive kiln made of wood, insulated with sawdust and heated with a sawdust-burning furnace, was developed to relieve the shortage of properly dried lumber, especially box lumber. Cooperated with a Connecticut aircraft manufacturer in determining the cause of deflection in helicopter rotor blades. A total of 585 persons attended 24 sessions of Army, Navy and WPB sponsored instructional courses in

aircraft repair and maintenance, aircraft wood inspection, the laminating of timbers for ships and boats, and military vehicle wood inspection. A manual was prepared for the Army Air Forces for use in connection with the in-service training of AAF inspectors of aircraft wood.

Work now underway includes research and development relating to laminated construction, glues and gluing techniques, protection of wood against deterioration, and seasoning, and the preparation of the following publications for the Army and Navy; a manual on the repair of wood aircraft propellers, a textbook on dry kiln certification, and a manual on wood ship and boat construction.

Properties investigations and wood products development: A "Handbook on the Design of Wood Aircraft Structures" prepared in 1942 for the Aeronautical Board was revised to include design criteria established through recent comprehensive research. To provide the information required to prepare adequate veneer specifications a survey was made for the Army Air Forces of the type of veneer used to make impregnated, compressed wood for propellers and of the veneer qualities necessary for production of satisfactory blades. Instruction on the detection and measurement of slope of grain and other defects, such as knots, decay, and discolorations, in propeller lumber was given at the request of the Army Air Forces at three propeller plants having Government contracts. More than 100 specialized reports relating to the properties, fabrication, protection, and use of natural, modified, and chemically converted wood products in aircraft and other war commodities were prepared for the use of manufacturers, designers, and inspectors. Service reports of the deficiency of strength in oil-soaked wood led to a study of the effect of oils used in aircraft on the strength of wood. Tests made of quipo as a possible substitute for balsa in the British Mosquito bomber showed it to be similar to balsa in most common strength properties. The work of solving problems connected with packaging and containers for Army Ordnance, Army Air Forces, and War Food Administration for the shipment of equipment, supplies, and food continued at a high level during the year. Many types of containers suitable for repeated use were developed to conserve the critical supply of lumber. It was estimated that the Army Ordnance packaging work alone has resulted in great savings in cargo space and that on an average four ships can now carry the material for which five ships were formerly required. A training course in container construction and packaging was given 78 times, at the request of Army, Navy, WPB, and other agencies to a total of 5,940 officers and enlisted men of the armed forces and manufacturers' representatives. A new tube-boring technique was developed for maple bobbin production to conserve wood. Cooperation was given the U. S. Coast Guard in establishing specifications for oars of lifeboats and rafts used by U. S. Merchant Marine vessels

permitting the use of many species other than white ash. Directed and worked with manufacturers in the development of a non-metallic anti-tank mine for Army Ordnance. Methods of improving the performance of small sawmills, and of constructing simple labor saving devices were demonstrated to small mill operators. Specifications for portable sawmills for combat units were prepared in cooperation with the Army Engineers. A hopper unit that can be attached to a conventional domestic furnace was developed to permit the use of various forms of wood fuel ranging from chunks to sawdust. A survey of pulpwood harvesting methods was made in the South to suggest improvements in equipment and handling methods to permit available labor to produce more efficiently. More than 3200 technical representatives of industries engaged in war production visited the Laboratory to consult on forest products utilization problems.

Work is continuing on the many problems relating to the packaging and shipping of war supplies and equipment and food; developing additional data on the strength properties of wood, plywood, and wood- and paper-base plastics; improving the design and fabrication methods in engineering construction; improving the efficiency and production of small sawmills; and determining the effect of various defects on the properties of wood parts used in aircraft and other equipment.

Pulp and paper: Pulpboards treated with synthetic resins were developed that are very promising as cores in sandwich construction for high-speed aircraft of all types, including jet-propelled airplanes. The commercial use of papreg was expanded greatly during the year. It was found to have many advantages over metal for certain aircraft uses. For example, papreg ammunition boxes effected a weight saving of 55 to 60 pounds in a combat plane and cost 25 percent less than metal boxes. The weight of certain parts of a gun turret assembly when made of papreg can be reduced 32 percent, the equivalent of 46 rounds of .50 caliber ammunition. Though chief emphasis was given to the development of strong, tough, reinforced pulp plastics for war uses, the possibilities of lower-cost and lower-strength materials were not overlooked, and it was found that low-cost, high-yields pulps, such as the groundwood and semi-chemical types, were particularly suitable for such plastics. These, as well as certain other pulps, can be made into flat board or contoured shapes and molded into plastics, it was found, with or without resins. Results to date on fiber boxes made entirely from fiber reclaimed from old containers and mixed papers indicate that a board which will meet V2s specifications can be made entirely from reclaimed fiber. Up to 60 percent of new kraft pulp is now being used in the V2s grade of container.

Considerable improvement was accomplished in the strength and general quality of the fiber ammunition container for 105 mm. shells by improving the quality of the paperboard used. A total of nearly 1500 commercial greaseproof, waterproof, and vaporproof papers, tapes,

and adhesives were tested at the request of Army Ordnance to determine their suitability for wrapping ordnance equipment for overseas shipment. Means of maintaining pulp production in the face of decreasing pulpwood production which were brought to the attention of the pulp and paper industry include the use of unpeeled wood for kraft pulp; use of hardwoods and mixtures of hardwoods and softwoods where hardwoods are readily available; and the use for chemical pulp of various forms of wood waste, including sawdust, slabs, shavings and veneer mill waste, in mixture with chips.

Currently the program includes a continuation of studies on the improvement and adaptability of papreg and other pulp and paper products to war and essential civilian uses and on increasing the supply of pulp which continues to remain critical.

Chemically converted and derived products: The results of the pilot-plant study on the hydrolysis of wood and on the fermentation of the resulting wood sugars, conducted for the War Production Board, served as a basis for engineering plans for a commercial plant being constructed on the West Coast for the production of industrial alcohol from mill wastes. Considerable work was done on the conversion of wood sugar obtained by hydrolysis to high protein feeding yeast. A study was begun on the hydrogenation of the lignin residue from the saccharification of Douglas-fir. The work done so far in the separation of the resulting products into individual fractions showed them to be cyclohexanols, phenols, and hydrocarbons. At the request of the War Production Board, treating methods were developed that make Douglas-fir and noble fir suitable substitutes for Port Orford white-cedar battery separators, the preferred species for this use, which can no longer meet the demand. Developed a hydrolyzed-wood-composition separator as a substitute for hard rubber separators now used in storage batteries that are shipped dry-charged to war theaters. A method was developed for acetylating wood by both liquid and vaporphase treatments which leaves the fibrous structure of wood intact and reduces its tendency to swell and shrink 60 to 75 percent. Information so far available indicates that acetylated wood will cost less than either impreg or compreg. Results of preliminary experiments suggest that hydrolyzed wood (hydroxylin) from chips can be formed into boards at rather low pressure to give panels which are similar to some of the widely used commercial building boards. Compreg, the resin-treated, compressed wood developed by the Laboratory, is now being produced commercially by six companies, and is being used chiefly for aircraft propellers, aerial masts, and aircraft spar plates.

Studies are being continued on the hydrogenation of the lignin resulting from the saccharification of wood; the production and conversion of wood sugars to alcohol and high protein feeding yeast; and the improvement of acetylated wood, staypak and compreg and their adaptation to additional war uses.

(h) Forest Resources Investigations

(Consolidation of "Forest Economics" with "Forest Survey")

FILE COPY
ESTIMATES OF
OFFICE OF BUDGET

Appropriation Act, 1945:

Forest survey	\$156,246
Forest economics	84,018
Total available, 1945	240,264
Budget Estimate, 1946	204,600
Change for 1946:	
Overtime decrease	-25,664
Other decrease	-10,000
	<u>-35,664</u>

As shown above, the estimates propose the consolidation of the items "Forest survey" and "Forest economics" under the title "Forest resources investigations". This proposal is made in the interest of simplifying the appropriation structure for research activities of the Forest Service and, in conjunction with another consolidation proposed involving "Forest management" and "Forest influences", will provide for a more logical grouping of research funds into four items rather than six as heretofore.

PROJECT STATEMENT

Project	1944	1945 :(estimated):	1946 :(estimated):	Increase or decrease
1. Forest survey	\$139,461:	\$139,984:	\$139,984:	- -
2. Economic investigations :	74,058:	74,616:	64,616:	-\$10,000 (1)
3. Overtime costs	28,613:	25,664:	- -:	-25,664
Unobligated balance	1,481:	- -:	- -:	- -
Total estimate or	:	:	:	:
appropriation (1944 :	:	:	:	:
and 1945 adjusted :	:	:	:	:
for comparability).	243,613:	240,264:	204,600:	-35,664

DECREASE

The decrease of \$35,664 for 1946 consists of the decrease of \$25,664 for overtime, and

- (1) A decrease of \$10,000 under the project "Economic investigations" due to the completion in 1945 of the economic study an appraisal of forest resources in the anthracite forest region. The study has resulted in the preparation of maps showing the location, size, and approximate volume of each timber unit in all of the 15 anthracite counties. This information has greatly aided local agencies and lumber and mine timber producers in locating suitable timber supplies, and in planning more efficient fire protection. In one section, the number of fires has been reduced by 75 percent as the result of a new local approach stimulated and helped by these studies.

CHANGES IN LANGUAGE

The estimates include proposed changes in the language of this item as follows (new language underscored, deleted matter enclosed with brackets):

Forest [survey] resources investigations: A comprehensive forest survey under section 9, and investigations in forest economics under section 10,

The changes in this item are proposed to effect consolidation of the former "Forest survey" and "Forest economics" appropriations under the new title "Forest resources investigations", and are necessary in order to incorporate in the paragraph, references to work formerly included under the separate items "Forest survey" and "Forest economics". The change in title is for the purpose of appropriately designating activities included under the combined item.

WORK UNDER THIS APPROPRIATION

Objective: To provide and maintain information on the forest resource of the United States, including its condition, area, volume, location, quality, rate of growth, and rate of drain; to determine the requirements for forest products; to study problems of the forest economy as revealed by this survey; and to make special studies related to the economic problems of forest ownership, management, production, utilization and consumption.

The Problem and its Significance: Approximately 630 million acres, or one-third of the total area of the United States, is in forest land, three-fourths of which is commercial and one-fourth noncommercial. The forest stands vary from heavy virgin forests, now mostly in the western states, to light and scattered second growth, mostly in the east. Some of the timber is readily accessible; some is economically inaccessible. Some timber is of the size and quality to make it highly desirable and useful; some is so poor it cannot be harvested economically. On part of the forest land new growth is being produced abundantly; other lands are too poor to produce a forest stand, or fires or heavy cutting have prevented regeneration. Some of the timber is still close to consuming markets, but much of it can be brought to market only at considerable cost. Detailed knowledge of these conditions is essential to an understanding of our forest opportunities and problems. The means of acquiring this knowledge is through forest resource studies - the forest survey and forest economics investigations.

The function of the forest survey is to inventory the forest stand, to show where and in what volume trees of different species, age and quality are located, to determine how fast stands of different quality and value are being depleted through cutting and other losses, and the nature, location and extent of new forest growth. Without this information there can be no intelligent appraisal of the storehouse of value in our forests nor of the problems of utilizing, replacing, and protecting our forest wealth. With this information

there will be a sound basis on which public and private agencies may develop plans and programs which will assure adequate supplies of forest products for the future and proper forest land use.

In addition to providing these basic data, the forest survey discloses many special problems of local, regional or national interest. Some of these problems are economic in nature, and serve as a starting point for forest economics investigations. These investigations are concerned with the relations of industries and people to forest resources. They are concerned with the economic opportunities of managing and utilizing forests, and with the problems of cut-over lands, impaired watersheds and depleted forest ranges when these opportunities are gone. They are investigations of the economics of forest land ownership, of forest management and sustained yield, and of production and utilization. Investigations are also required to study problems of a special economic nature as a guide to the formulation of policy and programs of national forest administration, activities dealing with forest fire cooperation with states, and in cooperative activities with farmers and other private forest enterprises.

General Plan: The forest survey was initiated in 1930. The objective is accomplished by a field inventory and analysis of both public and private lands and a study of current and prospective production and consumption of forest products and the influencing factors. The inventory field work is being done under the direction of the regional Forest Experiment Stations and the requirements phase by a central unit in Washington, with general correlation of both from the office of the Chief of the Forest Service in Washington. The general plan is to cover unsurveyed territory as rapidly as conditions will permit. Findings of the survey are compiled and analyzed, and reports are issued by counties or groups of counties, states, and forest regions as soon as possible after completion of the field inventory. Subsequently the data for the territory covered are brought up to date from time to time through field check and office computations. Following the completion of the entire country by the initial inventory, the aim will be to keep the data current thereafter.

Forest economics investigations are of two kinds: (1) those that extend over a period of years and must be conducted continuously, such as studies of the economics of forest management, and (2) those that are oriented to the present critical problems growing out of maladjustments in the forest economy. At present highest priority is given those activities which contribute most to the information required by the war effort. Close working relationships exist with a number of other groups, including State experiment stations, universities, trade associations, the Bureau of the Census, some war agencies, and other Federal bureaus.

Progress and Current Program:

Forest survey: To date, one-half of the 630 million acres of forest land has been initially inventoried. More than three-fourths of the

planned reports covering these inventoried areas have been completed. Two hundred and twenty-one reports on timber stands and forest type maps for all or parts of 16 states have been issued. During the past year, reports for 7 counties, one survey unit, and one state were prepared. For much of the area surveyed, these reports reveal that the forest situation is far from satisfactory. In the South, forest land is only one-third stocked with trees, and growth is less than one-half of what the forest land could produce. Sawtimber is being heavily overcut. In the Lake States two-fifths of the land is poor to non-stocked. In the Ponderosa pine country of the Northwest, no major producing unit can continue long to supply anything like its present cut. In the older districts of the Pacific Coast, notably around Puget Sound, the bulk of the readily accessible sawtimber has been removed. These facts emphasize the urgent need of early adjustments in cutting programs and of improvements in forest-land management.

During the past and current years, numerous special studies were made in cooperation with the War Production Board. The largest undertakings were the monthly surveys of lumber production, quarterly surveys of lumber stocks, and quarterly reports on factors affecting lumber production. These data are vital in the formulation of production programs and in controlling the distribution of a limited supply of lumber to the most essential uses. For the past three years these demands for specialized information have precluded rapid progress in completing reports for the 300 million acres already inventoried and have caused a serious lag in keeping the regular survey data up to date through forest drain and growth studies. It has been impossible to inventory new areas systematically.

During the current year priority is being given to serving war production needs and to bringing the survey information up to date in all regions initially inventoried. It is also planned to complete unfinished reports for five states in the South and Lake States regions.

The work of the requirements phase of the survey is being diverted almost entirely to a consideration of present and immediate post-war needs. For the past three years requirements statements have been of extremely great value to the War Production Board in formulating and administering controls on the distribution and use of lumber.

Economic investigations: Two field projects of especial importance whose continuous operation is essential to the full utilization of past results have been kept up. (1) Analysis of operations of the farm forest cooperative association at Cooperstown, New York, a pilot plant sponsored by the Forest Service for the development of this field, resulted in marked modification and in economy of logging and mill operations. In spite of operating handicaps and the logging difficulties occasioned by the pressure of other types of farm enterprise, the Association's mill turned out almost 2 million board feet of good quality lumber last year. The timber was cut from coop-member woodlots under forestry methods being developed and adapted to the farm economy as a result of work on this project. (2) The problem of how to harvest urgently needed forest products, yet keep forest lands in productive

condition to meet demands after the war, has centered attention on the work at the experimental forest at Crossett, Arkansas. Experiments are under way to show how the cut per acre affects the cost of felling and bucking, skidding and loading, and trucking; how tree and log size affect cost of selective logging and lumber manufacture; and how tree size and selective logging affect realization value. A progress report was issued giving the results of studies to date, pointing out in particular the application of the results of the cutting studies to the second-growth forests in the shortleaf and loblolly pine-hardwood area west of the Mississippi River, of which the experimental forest is typical. These studies indicate economically practicable methods of cutting and management that will enable those forests to furnish large quantities of timber to meet present needs, and to recuperate quickly and yield more and better timber in the future. There remains to be made further investigation of the comparative economic advantages of cutting cycles of different lengths and of alternative management and utilization practices.

In addition to the field studies mentioned above, other investigations dealing with production costs, product prices, improved forest and mill operating methods, possibilities of timber salvage, and adjustments needed to make the practice of forestry financially attractive have been carried on in the Washington office and in the field.

Examples of these undertakings are as follows:

(a) Costs and other surveys: Analyses of production costs for logs, mine timber, pulpwood, and fuelwood in several critical areas were made and the results furnished OPA and other agencies. Surveys were made in the Lake States on the effect of ceiling prices on the distribution of logs between various types of processors; and in the South on the operating relationships between concentration yards and small mills. Special surveys were made on the feasibility of increasing the production of tanbark, charcoal, fruit and vegetable containers; and on food requirements for lumber camps.

(b) Stumpage and log prices: The annual study of stumpage and log prices, while continuing to fill its peace-time purposes, has been especially valuable to war agencies concerned with price control and production. Modification to give greater coverage and more intensive analyses of data has been made to facilitate use by OPA and WPB.

(c) Fire economics investigations: One subject on which agreement is found among public and many private owners of forest properties is the need for adequate protection of forests from the losses occasioned by fire. As this pressure for greater fire outlay increases, the question of what level of protection is justifiable and how available funds should be apportioned among the various forest producing areas so as to maximize returns assumes an order of first importance. Investigations are now under way at the Appalachian, Pacific Northwest and California Experiment Stations, directed to the purpose of loss determination, and establishment of that level of protection which is economically justifiable in light of the values at stake.

(d) Salvage study in Tillamook County, Oregon: There still remains some 8 billion feet of lumber in the Tillamook burn area in Oregon,

an amount approximately equal to one year's production for the entire Pacific Northwest. At a time when the exhaustion of present virgin timber supplies lies in the foreseeable future, salvage of this wasting asset becomes increasingly significant. The Pacific Northwest Experiment Station, in cooperation with certain loggers operating in that area, is now making detailed studies on logging costs, extent of deterioration, suitability of snags for various purposes, roads needed for timber removal, and the relationship of salvage costs to protection costs in any program of restocking.

(e) Investigation directed toward manpower saving: The shortage of manpower and the need for repetitive surveys for war program purposes have prompted investigations designed to effect operating economics. Outstanding in this respect are the universal volume tables designed to give the board foot volume of a tree of any given size and specie. This development naturally shortens the time and lessens the cumbersome usually required in volume determination.

A method has been developed to determine the most economic size of a sample of logs to be scaled in measuring the total value of any sale of timber. This method promises to result in important savings in the cost of buying and selling timber.

Refinements have been made in the interpretations of aerial photographs of forest land to the point where it is possible to identify particular species and to prepare reliable volume estimates on tracts as small as ten acres. Because of the far-reaching significance of these techniques to forest surveys, permitting as they will the obtaining of greater detail by small areas, additional work is being carried on in their development.

(f) Industry studies: The Lake States Station, in cooperation with Michigan State College, is carrying on an investigation in the southern part of the State designed to show the relationship between the requirements of the fruit producers for containers, the existing capacity for manufacture, and the availability of suitable raw materials. From the timber production standpoint, the preliminary findings indicate considerable promise for the future of farm woodlands in this region.

(g) Other special studies: Requests have come from the Army for studies of the forest resources and the forest economies of several foreign countries. These studies have been made and reports prepared.

(i) Forest Economics

Appropriation Act, 1945	\$84,018
Proposed consolidation of this item in the 1946 estimates with "Forest resources investigations"	<u>-84,018</u>
Budget estimate, 1946	<u> </u>

(j) Forest Influences

Appropriation Act, 1945	\$86,762
Proposed consolidation of this item in the 1946 estimates with "Forest management"	<u>-86,762</u>
Budget estimate, 1946	<u> </u>

(k) Forest Fire Cooperation

Appropriation Act, 1945	\$6,300,000
Budget estimate, 1946	<u>7,300,000</u>
Change for 1946:	
Overtime decrease ..	-34,880
Increase	<u>-1,034,880</u>
	<u>-1,000,000</u>

PROJECT STATEMENT

Project	1944	1945 :(estimated)	1946 :(estimated)	Increase or decrease
1. Cooperation with States in forest fire prevention and suppression	6,183,976	6,265,120	7,300,000	-1,034,880 ⁽¹⁾
2. Taxation inquiry and insurance	39,673	- -	- -	- -
3. Overtime costs	35,860	34,880	- -	-34,880
Unobligated balance	70,491	- -	- -	- -
Total estimate or appropriation	6,330,000	6,300,000	7,300,000	-1,000,000

INCREASES OR DECREASES

The net increase of \$1,000,000 for 1946 consists of the \$34,880 decrease for overtime, and

(1) An increase of \$1,034,880 under the project "Cooperation with States in forest fire prevention and suppression" to provide for increased

Federal assistance to States for forest fire control on State and private lands, in accordance with the Act of May 5, 1944 (Public Law 296).

Objective: The ultimate objective is to reduce to a minimum the losses from forest fire on non-Federal lands, including protection costs. Three things are needed to accomplish it: (1) Prevent fires from starting, (2) suppress fires that do occur as promptly as possible, and (3) use effectively all available protection facilities and funds. The intermediate objective is to assist the States to build up and maintain competent organizations for fire control purposes, and to see that the approved fire protection plan for each cooperating State is effectively carried out. The Act of May 5, 1944 (Public Law 296), raised the authorization for Federal participation in this work up to \$9,000,000, with \$7,300,000 specifically authorized for the fiscal year 1946.

The Problem and its Significance: This cooperative project applies only to non-Federal lands. Nearly 431 million acres or 70% of the nation's forest lands are in State and private ownership - they produce about 90% of our needs for lumber and other wood products. Much of this land lies within easy reach of large numbers of people; travel and use are heavy, fire hazards are relatively high.

On the basis of pre-war figures it was estimated that an adequate protection job would cost \$18,729,000 annually. The Clarke-McNary Law authorizes 50-50 Federal participation. During the calendar year 1943 protection was given 299 million acres of forest lands. Protection budgets for the fiscal year 1944, including all available funds, amounted to approximately \$16,000,000, of which the Federal participation was \$5,300,000 or about one-third. This is exclusive of that portion of the Clarke-McNary appropriation earmarked for strengthening protection on areas of special military importance (\$1,000,000).

During the calendar year 1943 a total of 78,815 fires were reported on the 299 million acres of protected State and private forest lands. These fires burned 3,860,143 acres. On the 131 million acres which have not yet been placed under organized protection, there were estimated to be approximately 122,000 fires which burned 27,772,000 acres. In other words, only 1.3% of the protected area was burned over, as against 21% for the unprotected area. Organized protection held the average acre per fire to 49 acres on protected lands, while the average for unprotected areas was estimated as 228 acres.

Fully 90% of all forest fires are caused either by carelessness or maliciousness and so are preventable. Forest fire protection is in large measure a public responsibility - one in which the community, the State, and the Federal Government must join and cooperate with the landowners. Leadership and financial participation by the Federal Government, with administration or direct supervision of the work by the State, has proved the best way of doing the job. To solve the forest fire problem adequately, protection must be extended to areas not now protected and higher standards must be obtained on much of the area now under organized protection.

Plan of Work: Plans for fire control are prepared jointly by State and Federal agencies. The Forest Service furnishes leadership and checks on State performance to the extent needed to safeguard the Federal interest. Federal funds are made available to the State on a reimbursable basis - that is, the State and its qualified cooperators must expend at least an equal amount in order to qualify for Federal funds. Reimbursement is made to the State only upon certification showing that proper expenditures have already been made for purposes within the scope of the approved program. Budgets are required from the States indicating in detail the personnel and equipment required and outlining the plan of work contemplated for the Fiscal Year. Inspection and audit are made by the Forest Service to verify compliance with established standards and requirements. Technical assistance and advanced techniques are made available to the individual States.

CHANGE IN LANGUAGE

The estimates propose the deletion of the following proviso of this item:

[Provided, That the Secretary may authorize expenditures not to exceed \$1,000,000 from this appropriation for preventing and suppressing forest fires on extremely critical areas of national importance without requiring an equal expenditure by the State and private owners]

Section 207 of the Department of Agriculture Organic Act of 1944 continues this authorization "for each fiscal year during the existing emergency", and its retention in the annual appropriation act is, therefore, unnecessary.

WORK UNDER THIS APPROPRIATION

1. Cooperation with States in forest fire prevention and suppression.

Objective: To extend Federal aid in continuing and improving the pre-war standards of essential fire control on the 299,000,000 acres of state and private forest and watershed lands now being protected and to cooperate in the extension of forest protection to part of the remaining 131,000,000 acres of non-Federal lands needing, but not now receiving, organized protection. Fire control objectives are (1) to prevent fires from starting and (2) to detect and suppress promptly all fires which do occur - all at the lowest practicable cost.

The Problem and its Significance: Over three-fourths of the Nation's forest lands are in state and private ownership. These lands are providing at least 90% of the wood required for war and other essential needs. Safeguarding this supply of raw material is of fundamental importance.

The war has complicated and increased the cost of fire control. Key fire fighters have joined the armed forces or left for more remunerative jobs in war and industrial plants. Salaries and wages are higher and costs of all fire fighting tools and equipment have mounted. State protection personnel turnovers of 50 percent are not uncommon.

The unavailability of Civilian Conservation Corps camps has made the protection job more difficult in the past few years. In 1935 there were 633 such camps assisting in the construction of forest fire improvements and furnishing a backlog of approximately 126,000 trained fire fighters on state and private areas. This number of camps was gradually reduced to 271 in 1941 and then to 65 in 1942. Now all are gone. In order to hold fire suppression costs to a minimum it is now necessary for the states to hire and train special suppression crews so that trained fire fighters will be readily available. This appropriation is intended partly to help the states in meeting these added costs in order to maintain pre-war levels of fire control. It is also needed to initiate or strengthen protection on areas of special importance from a military standpoint. Forest fires destroy wood needed for war and other essential uses. Large fires can readily destroy or damage important facilities, military establishments and plants producing war materials. They interfere with aviation training and coastal patrol. Due to the scarcity of fire fighters, fires divert manpower from war work and from agriculture.

The Clarke-McNary Law, enacted in 1924, has been very effective in stimulating protection by state and local agencies. Federal leadership stimulates state legislative action and gives stability to trained protection organizations. Appropriations by the states and private land owners have shown steady and substantial increases. For the fiscal year 1944 state and private funds are available in the amount of \$11,287,968. The Clarke-McNary Law provides for 50-50 Federal sharing in expenditures.

During the calendar year 1943 there was reported a total of 78,815 fires on the 299,000,000 acres of protected state and private forest lands. These fires burned 3,860,000 acres and caused over \$9,000,000 damage. On the 131,000,000 acres which had not been placed under organized protection, there were 121,600 fires. 1.29 percent of the protected area was burned over - but forest fires ranged over 21 percent of the unprotected area. The actual value of organized protection is shown by the fact that although 39 percent of all the fires occurred on protected lands, only 12 percent of the acreage burned was on protected land.

General Plan: The cooperative fire protective program is administered on the ground by the states under agreements and plans developed jointly by Federal and state officers. Each state annually presents a budget showing state and other funds set up for the work. In brief, adequate protection involves a comprehensive fire plan embodying: (1) a program to prevent fires and eliminate abnormal hazards; (2) a system for rapidly detecting and reporting fires; (3) necessary improvements for communication and transportation; (4) suitable fire fighting equipment and supplies; (5) a competent and adequate supervisory force; (6) dependable crews of trained fire fighters; and (7) at times the employment of large numbers of untrained men. Adequate inspection is made by the Forest Service to see that high standards of organization and performance are maintained. Grants to the individual states are made on a reimbursement basis; that is, expenditure must be made by the state before any reimbursement is granted.

State Allotments for Forest Fire Cooperation, Fiscal Year 1945

State	State and :	Federal Allotments	
	:Private funds:	Matched	Unmatched
	: budgeted :		
Alabama	\$248,303:	\$136,468:	\$17,035
Arkansas	165,425:	133,605:	9,000
California	1,396,611:	849,500:	- -
Colorado	150,792:	32,500:	- -
Connecticut	130,584:	30,096:	- -
Delaware	10,300:	3,783:	- -
Florida	441,310:	201,924:	54,999
Georgia	285,150:	138,510:	32,000
Idaho (N)	188,626:	92,056:	16,000
Idaho (S)	36,182:	16,971:	2,800
Illinois	30,707:	13,364:	4,000
Indiana	68,108:	25,033:	5,000
Kentucky	53,170:	39,420:	10,000
Louisiana	233,572:	137,342:	10,200
Maine	153,679:	96,058:	16,300
Maryland	114,867:	34,112:	60,000
Massachusetts	236,505:	65,704:	- -
Michigan	621,711:	304,694:	8,000
Minnesota	303,697:	207,422:	10,000
Mississippi	193,340:	105,023:	19,000
Missouri	52,329:	35,764:	16,000
Montana	111,748:	64,485:	6,000
Nevada	10,029:	4,581:	- -
New Hampshire	a/ 80,416:	38,630:	7,460
New Jersey	221,082:	72,500:	19,947
New Mexico	26,141:	6,885:	- -
New York	373,981:	145,482:	7,037
North Carolina	221,381:	130,336:	42,000
Ohio	88,780:	19,356:	14,000
Oklahoma	29,649:	28,451:	- -
Oregon	1,104,186:	385,500:	108,118
Pennsylvania	392,058:	178,271:	- -
Rhode Island	60,176:	13,750:	- -
South Carolina	316,586:	136,195:	20,100
South Dakota	11,957:	2,400:	- -
Tennessee	88,340:	78,250:	25,800
Texas	137,126:	87,053:	36,001
Utah	23,895:	10,175:	1,000
Vermont	48,848:	21,350:	1,990
Virginia	127,336:	92,484:	100,000
Washington	1,625,397:	414,754:	150,000
West Virginia	201,568:	119,441:	- -
Wisconsin	477,298:	202,694:	10,000
Hawaii	4,150:	2,628:	- -
Administration and inspection	:	:	:
(Washington Office and Regions)	- -:	247,893:	12,000
Wartime fire prevention campaign	- -:	20,000:	14,000
Tax law service	- -:	8,500:	- -
Forest fire studies	- -:	25,000:	- -
Contingent and reserve for spring	:	:	:
season	- -:	43,607:	134,213
Grand totals	10,897,096:	5,300,000:	1,000,000

a/ Fiscal year 1944 figure used for N.H.--fiscal year 1945 budget not received.

(1) Farm and Other Private Forestry Cooperation

Appropriation Act, 1945	\$781,466
Budget estimate, 1946	<u>732,500</u>
Change for 1946:	
Overtime decrease -48,929	
Other decrease : - <u>37</u>	<u>-48,966</u>

PROJECT STATEMENT

Project	1945 :(estimated):	1945 :(estimated):	1946 :(estimated):	Increase or decrease
1. Cooperation with States: in the procurement, pro- duction, and distribu- tion of forest-tree and shrub seeds and plants for farmers (Forest Ser- vice):				
Under Clarke-McNary Act, section 4	\$83,621	\$83,700	\$83,700	- - -
Under Morris-Doxey Act:	39,196	39,300	39,300	- - -
Total, Project 1 ...	<u>122,817</u>	<u>123,000</u>	<u>123,000</u>	<u>- - -</u>
2. Cooperation with States for extension activities in develop- ing farm forestry (Ex- tension Service):				
Under Clarke-McNary Act, section 5	53,817	65,100	65,100	- - -
Under Morris-Doxey Act:	26,148	41,739	41,739	- - -
Total, Project 2 ...	<u>79,965</u>	<u>106,839</u>	<u>106,839</u>	<u>- - -</u>
3. Cooperation with States in carrying out farm forestry operations: including intensive projects and technical service to farmers and to legally competent and adequate organiza- tions of farmers:				
Under Morris-Doxey Act:				
Forest Service	21,386	22,031	148,231	+126,200(a)
Soil Conservation service	119,043	126,200	- - -	-126,200(a)
Total, Project 3 ...	<u>140,429</u>	<u>148,231</u>	<u>148,231</u>	<u>- - -</u>

Farm and Other Private Forestry Cooperation (Continued)

Project	1944	1945 :(estimated)	1946 :(estimated)	Increase or decrease
4. Farm Forestry investi- gations (Forest Service):				
Under Norris-Doxey Act	\$17,685	\$20,124	\$20,124	--
5. Technical services to farmers in harvest- ing, marketing, and utilization of farm wood products (Forest Service):				
Under Norris-Doxey Act:	192,177	246,600	246,563	-37(1)
6. Cooperation with timberland owners in formulating and apply- ing principles of sus- tained yield management: (Forest Service)	94,304	87,743	87,743	---
7. Overtime costs.....	48,151	48,929	---	-48,929
Unobligated balance	75,640	---	---	---
Total estimate or appropriation	771,168	781,466	732,500	-48,966

The decrease of \$48,966 for 1946 consists of the \$48,929 decrease for overtime, and (1) a decrease of \$37 in Project 5 to round off the appropriation total.

(a) Statement with respect to change proposed in Project 3

In order to consolidate primary responsibility for the administration of the cooperative farm forestry program authorized by the Norris-Doxey and Clarke-McFary Acts in the Department's subject matter agency in forestry, and to better integrate this work with other aspects of the Department's forestry program, the 1946 estimates contemplate transferring supervision of the intensive farm forestry demonstration projects to the Forest Service from the Soil Conservation Service. The Forest Service is now responsible for the intensive forest farming demonstration projects and with this change would be responsible for all activities except the Extension Service phases under this program. Accordingly, it is proposed to allot to the Forest Service \$126,200 which has previously been allotted to the Soil Conservation Service for supervision of these projects. Also under this plan the Soil Conservation Service will continue to participate in the formulation of Department farm forestry policy, because of the importance of that policy to the soil conservation

program. It will not in any way reduce its interest in proper farm woodland management as it affects soil and water conservation and proper land use in carrying out its regular soil conservation program. The Soil Conservation Service now looks to the Forest Service for the development of technical information in the field of forestry, and it will have full access to all technical information concerning farm forestry practices arising out of the cooperative farm forestry program.

In many sections of the country farm forest lands are intermingled with non-farm or so-called industrial forest lands, on which the Forest Service has for many years had responsibility for administering Federal cooperative activities. Farm forest lands constitute approximately one-third of all forest land in the country and about 40 percent of the forest land east of the Great Plains. In those cases where they are intermingled with non-farm forest holdings, they form an integral part of the local forest economy. Under these circumstances wood-using plants and forest industry employment are supported by the forest resources from both classes of forest lands. In many cases, particularly in the South, the local forest economy can be maintained on a long-range basis only under sustained yield forest management based on all forest lands within an entire geographical area. Individual farm woodlands need to be managed in harmony with other forest lands in the same locality in order to make such an approach effective.

The Forest Service has carried on cooperative work with the States for many years and is now cooperating with State forestry agencies in 47 States, Puerto Rico and Hawaii in carrying on cooperative fire protection and other kinds of forestry activities under the Clarke-McNary and Norris-Doxey Acts. By placing the administration of both types of intensive demonstration projects under the direction of the Forest Service, the Department can simplify and make more efficient the administration of its cooperative farm forestry activities. It is believed that cooperative forestry work with appropriate State forestry agencies, as well as with private owners and operators of forest lands, will also be simplified.

The Extension Service will continue to carry out, under this appropriation, farm forestry educational activities in cooperation with the State Extension Services under Section 5 of the Clarke-McNary Act and the Norris-Doxey Act. It will look to the Forest Service for subject matter material and will work closely with that agency in administration of its activities.

CHANGES IN LANGUAGE

The estimates proposed the deletion of two provisos in this item, as follows (deleted matter enclosed in brackets):

Provided, [That no part of this appropriation which is available for carrying out the Cooperative Farm Forestry Act and sections 4 and 5 of the Act approved June 7, 1924, shall be expended in any State or Territory unless the State or Territory, or local subdivision thereof, or individuals, or associations contribute a

sum equal to that to be allotted therefrom by the Government or make contributions other than money deemed by the Secretary to be the value equivalent thereof: Provided further, That any part of this appropriation allocated for the production or procurement of nursery stock by any Federal agency, or funds appropriated to any Federal agency for allocation to cooperating States for the production or procurement of nursery stock, shall remain available for expenditure for not more than three fiscal years: Provided further,] * * *

The retention of these two provisos in the annual appropriation act is unnecessary since authority therefor is now contained in sections 208 and 209 of the Department of Agriculture Organic Act of 1944, approved September 21, 1944 (Public Law 425).

WORK UNDER THIS APPROPRIATION

Activities under this appropriation fall into three general categories:

1. Cooperation with States in the procurement, production, and distribution of forest tree and shrub seeds and plants for farmers.
2. Technical assistance and advice to 3-1/2 million farmers owning woodlots totaling 185 million acres.
3. Advice to owners of industrial forestry holdings, large and small, in order to promote better forestry practices.

1. Tree Distribution: The following tabulation shows the number of forest tree seedlings and transplants distributed to farmers by States during the last three calendar years:

<u>State</u>	<u>1941</u>	<u>1942</u>	<u>1943</u>
Alabama	3,709,700	1,540,450	1,250,449
Arkansas	2,616,500	1,516,796	280,000
Connecticut	89,500	103,800	42,500
Delaware	89,200	31,500	29,800
Florida	6,314,600	3,007,100	2,995,800
Georgia	10,356,180	6,892,345	3,557,730
Hawaii	126,700	86,100	18,700
Idaho	290,765	204,000	152,430
Illinois	2,931,000	6,536,300	644,800
Indiana	1,691,800	1,299,070	1,032,080
Iowa	1,772,817	837,308	246,900
Kansas	559,000	479,700	340,177
Kentucky	936,800	495,700	162,600
Louisiana	2,327,135	1,565,998	401,000
Maine	169,500	134,150	71,850

<u>State</u>	<u>1941</u>	<u>1942</u>	<u>1943</u>
Maryland	335,600	160,725	130,850
Massachusetts	616,400	476,900	238,400
Michigan	2,568,050	2,696,654	1,704,449
Mississippi	9,787,000	4,551,700	2,399,400
Missouri	1,535,900	1,195,700	861,200
Montana	338,000	295,200	227,253
Nebraska	911,200	863,800	974,000
New Hampshire	348,175	306,775	96,670
New Jersey	1,187,700	727,750	468,900
New York	7,107,000	5,640,000	4,847,000
North Carolina	2,412,330	1,436,800	703,000
North Dakota	609,500	662,600	434,913
Ohio	2,466,595	2,109,191	1,397,185
Oklahoma	769,300	655,400	301,900
Oregon	385,500	366,000	112,400
Pennsylvania	4,952,300	3,808,500	3,873,500
South Carolina	9,666,318	7,442,237	3,676,050
South Dakota	615,300	764,500	579,250
Tennessee	3,452,900	1,929,300	836,241
Texas	1,065,000	2,223,900	948,200
Utah	143,500	69,100	63,200
Vermont	1,013,900	319,700	169,413
Virginia	1,242,805	590,900	396,810
Washington	300,620	67,685	81,100
West Virginia	579,800	638,990	468,400
Wisconsin	7,728,300	8,518,000	7,745,100
Wyoming	115,100	73,500	45,400
Colorado	352,800	234,500	200,500
Puerto Rico	1,062,000	662,200	1,143,000
	<u>97,650,090</u>	<u>74,218,524</u>	<u>46,350,500</u>

The decrease in 1942, and again in 1943, in the number of trees distributed is a direct result of the war situation with the attendant shortage of help on the farms. In many States, however, the demand for planting stock in 1943 was considerably in excess of the available supply and the individual States have made arrangements to step up production for 1944 and subsequent years. At the same time, all State nurseries are being maintained in condition to make the great expansion which will be concurrent with the end of the war. A minimum production of 200,000,000 trees is planned for availability immediately after the war - this planting stock will be important for planned post-war work, and is counted upon in that connection. Forest tree planting stock must, of course, be planned in advance of actual need to permit of sufficient growing time in the nurseries.

During the fiscal year 1944 the States made \$427,981 available for this work, in addition to the Federal allotment of \$123,000.

2. Activities to reach the farmers: Farm woodlands yield about one-third of our nation's forest products. One-fourth of the total sawlog supply, 38 percent of our pulpwood supply, and a large quantity of veneer logs originate on farms. In addition to this, farm woodlots furnish the bulk of fuel wood and fence post requirements of the United States. Many of the specialty woods important in the war, such as black walnut for gun stocks and dogwood for shuttle blocks, are harvested from farm woodlots. During the past year and because of the national emergency, work with farmers has been directed toward emphasizing the importance of increased production of urgently needed forest products and, at the same time, discouraging destructive overcutting so that the basic resources of woodlots can be assured for future timber crops. This program throughout is a cooperative undertaking in which all State and Federal agencies in the field of forestry are encouraged to participate. The agencies in the field include the State Extension Services, the State Foresters, the Soil Conservation Districts, and the Agricultural Experiment Stations. The Federal effort is largely one of stimulating general interest, guidance, and coordination of effort. The actual work on the ground is carried on largely under direction of State agencies.

(a) Extension: The Federal Extension Service cooperated with 43 States and two territories under the Clarke-McNary and Norris-Doxey Acts, and extended technical forestry assistance to other States. Federal extension foresters with regional responsibilities reviewed state plans of work, annual reports, developed forestry subject matter and acted as a clearing office for State extension foresters by making available to them information on forest practices, timber requirements and regulations originating in Federal war agencies. Helpful information was acquired through committee assignments and close contact within the Federal Forest Service. War Production Board, Office of Price Administration, and Offices of Solid Fuels and Petroleum Coordination and others.

Plans for farm timber production campaigns were developed and carried out in cooperation with the Forest Products Division of the War Production Board and the Timber Production War Project of the Forest Service. Information as to the fuel wood situation and plans to stimulate production were developed. Approximately 500,000 pieces of literature dealing with farm sawlog and pulpwood production, cutting practices, timber marketing, and fire protection, were prepared and distributed to State extension agencies.

Through visits to States assistance was given to such work as salvage of ice damaged timber, the development of timber marketing projects, State plans for farm timber production campaigns, fire prevention and safety programs, development of better cooperative relationships with State and Federal agencies and assistance with subject matter materials and technical aspects of field programs. Through State contacts definite farm timber production programs were prepared and put into operation. In a number of States assis-

tance of extension agents helped to keep mills with war contracts supplied with raw materials. The development of forestry leadership and better working relationships with industry were important features of the program. The production of fuel wood to conserve other fuels and to relieve transportation was encouraged and brought relief in critical areas. Farmers were aided with such activities as woodland management, reforestation, including windbreaks, timber utilization and marketing, and the preservation of fence posts. Farm income from the woods was increased and future production of timber crops protected through the assistance of extension agents through demonstrations of improved operating practices, and through the distribution of forestry literature. Four-H club members were encouraged to aid fire protection, thin timber stands, and assist with the getting out of smaller timber products.

(b) Demonstration projects: The second group of activities in reaching the farmers deals with demonstration projects in farm forestry. A demonstration project is a well-known device by which selected farms are used as demonstration areas, to which County Agents, Extension Foresters and others may bring potential farmer clients to see the work on the ground. The demonstration projects, carried on in 1944 cooperatively with the States by the Soil Conservation Service and the Forest Service, have been underway for a number of years and have been located as far as Federal and cooperative funds would permit in all of the important timber States. The work under this project is to encourage the development, by farmers, of their woodland as a productive unit and integral part of their farming business, by providing demonstrations on representative groups of farms, of the beneficial effects of sound woodland management.

During the fiscal year 1944, 52 projects in 33 States were administered directly or in cooperation with State Foresters. During the present emergency two types of cooperators have come to be recognized. The first type is composed of the original cooperating farmers who give full cooperation in the program by managing their woodlands and by keeping records that can be used to show other farmers the effect of the program on their farm economy. The second type consists of those farmers who require immediate or "spot" assistance in getting merchantable timber to market. Because of the existing critical lumber situation farm foresters were authorized to spend one-half or more of their time with the second type of cooperators.

Forestry technicians working with the first type of cooperating farmer in 1944 drew up 409 woodland management plans and cruised 32,578 acres, marking timber that was ready to be cut. Under the technical direction of and based upon the plans developed by forestry technicians, cooperating farmers during the fiscal year 1944 constructed 5,008 rods of fencing and 39,896 rods of firebreaks and maintained 16,896 rods of firebreaks. In addition, they

planted 414 acres of trees and 50 acres of windbreaks. These same farmers harvested 14,590 M board feet of saw timber, 181,049 lineal feet of poles and piling, 25,877 cross ties, 6,277 cords of pulpwood, 14,929 cords of fuel wood, 290,313 posts, and 630 barrels of gum naval stores.

Requests were received from 1,708 farmers for immediate or "spot" assistance. As a result, farm foresters cruised and marked timber for cutting on 30,065 acres for 756 of these farmers. These latter who cut their woodlands in accordance with the farm forester's advice, secured 20,863 M board feet of logs and lumber, 68,868 lineal feet of poles and piling, 9,812 cords of pulpwood, 15,105 cords of fuel wood and 20,520 posts, 8,432 gallons of maple syrup and 217 barrels of gum. In addition they planted 4,100 trees.

During the fiscal year 1945, farm foresters will continue to spend at least one-half of their time with the farmers who require immediate assistance in getting merchantable timber to market, and thus help to alleviate as much as possible the critical lumber situation.

(c) Marketing assistance projects: This program involves direct contacts with farmers and has been exceptionally well received by cooperating state agencies and farmers. The war emergency has given particular significance to the contribution made by farmers in producing wood products from farm woodlots. In stimulating this production, emphasis is placed on using good sound forest practices so that future values are not depleted. The program has, therefore, had as its objective stimulating production and getting better forest practice. Farmers have been brought in contact with buyers of wood products and have been given help and guidance to see that they secure a fair price for their products. Buyers are encouraged to see that it is to their advantage in the long run for farmers to receive a fair price for their products and for woodlots to be left in good productive shape to assure the vital, continuous, log supply required by dependent mills.

Wood products have been the most critically shy of all major materials needed in the conduct of the war. For lumber needs alone, the supply has been stretched to assure the filling of military and essential civilian requirements only by rigid rationing and a most critical definition of "requirements." Persistent withdrawals from stocks during the past two years have reduced the national stock pile of lumber from 17.3 billion feet in 1941 to some 6 billion feet at the present time. Present stocks in the second quarter of 1944 are composed of odds and ends insufficient to bridge the gap between highly desirable needs and production. Even should the war with Germany end soon, we will still face a serious situation due to the depletion of stocks. The war demands in other theaters can be expected to continue for some time and the post-war demand for wood

in this country and abroad will be tremendous. The emergency demands on our forest resources have encouraged the cutting of farm woodlands without thought as to future productiveness. Production of timber products therefore is not alone the measure of accomplishment under this program, important as that may be to the war effort. As a long range program its greatest value lies in the influence that the farm forester exercises upon the farmer's attitude towards keeping his woods permanently productive.

The estimated minimum requirements in 1944 for lumber for the military, and for only the most essential civilian needs, are about 35.5 billion feet. The production goal for 1944 of 34 billion feet can be reached only under the most favorable circumstances of weather and of recruitment of labor and equipment. Obviously, there is strong need for any measure that will help to increase production. This program is operating at present in 356 counties out of the more than 2,000 timbered counties which should have this service.

There are 140 million acres of farm woodland in the United States capable of producing continuous crops of wood which should be managed for this purpose. The average farmer is unfamiliar with the technical aspects of woodland management and does not appreciate the destructive effects of promiscuous slashing of his woods, nor is he usually aware of the larger returns that he may obtain through good management. The technical service to farmers is aimed to achieve these ends. Considering that one third of our country's wood products come from farm woodlands there is a pressing need to view the situation not only as it affects present demands but as it has a direct bearing on the productiveness of these woodlands to meet future emergencies.

The value of this work to farmers is illustrated by the report from the southern region of the Forest Service covering the fiscal year 1944. During this 12 months' period the Federal Government spent \$53,558 and the State Governments \$56,774 or a total of \$110,332. The amount received by farmers for their wood products, who were given this assistance was \$1,739,385. The investment of program funds made is only 6.15% of the gross returns to the farmers. The farmers received at least \$435,000 more for their products in this one year than they would have without this assistance. In addition they have acquired experience which will be of great value in marketing their forest products in the future. It is interesting to note that this 25% saving to farmers in the southern region is about four times the cost of the assistance furnished. On the basis of 312 farm forester man-months during this fiscal year period the income to farmers was something over \$5,500 per farm forester per month. This figure shows a decided increase in farmer income from their woodlands over the previous fiscal year under this same program. In addition a considerable amount of the production of sawlogs, lumber and pulpwood would not have been placed on the market by the farmers without the advice and assistance of the farm forester. Furthermore, additional

volumes have been marked and estimated and are ready for sale. It must always be kept in mind that this aid to farmers has been accomplished under good cutting practices.

The problem is to reach a larger part of the more than 3,000,000 farmers owning woodlands and in need of technical assistance in the type of management, harvesting, utilization, and marketing best suited to their particular situation.

Through the medium of 89 projects in 28 states (356 counties) a total of 8,284 farmers were given marketing and management assistance on 661,000 acres, 4,384 of which performed harvest and improvement cuttings on 178,000 acres. Total wood products cut from farm woodlands with the assistance of farm foresters total 300 million board feet all products, as contrasted to 56 million board feet in 1943 when the project was just getting underway. In addition, in fiscal year 1944 there were produced 6,105 barrels of gum naval stores and 12,573 gallons of maple syrup.

(d) Farm forestry investigations: The more urgent problems of farm forestry vary between regions being related to the forest and economic conditions prevailing and the demands of war for construction, container, and special lumber and forest products. In the deep South, emphasis in farm forestry investigations is on increasing the use of trees of low quality and of neglected species, and on ways of regenerating farm forests of pine. In the Central States, improved marketing requires better knowledge of the percentages of lumber by grades recoverable from various grades of trees and logs. The Northeast has urgent need for more efficient and less costly methods for harvesting, transporting, and using fuel wood, particularly of species not in demand for lumber and other uses. The farm forests of the Lake States present three outstanding problems; that of filling the needs of a large and active container market to the fullest extent possible from local sources, determining the place of farm woods in farm economy in sections predominantly agricultural, and determining how and to what extent cooperative marketing can lead to maximum returns in areas predominantly forested. Investigations looking toward solution of these problems are conducted in cooperation with State Agricultural Experiment Stations which contribute funds or services at least equal to the Federal expenditures on the projects.

Some results of immediate application have been derived, while progress on other projects has been in the direction of accumulating data and information for future analysis. Methods have been developed whereby weight reductions of 1000 lbs. per cord of fuel wood can be obtained with consequent savings in transportation costs. Progress has been made in the solution of the problem of regenerating cottonwood, a valuable species in the Delta, and in Michigan the investigations paved the way for farm forests to supply an increasing proportion of the materials needed for the

container industry. Field data and measurements have been collected for a study of the lumber grades recovered in milling graded logs, as a step toward enabling farmers to obtain fuller value for timber sold; and additional information was collected on the operation and organization of marketing cooperatives.

3. Cooperation with industrial timberland owners: The forest resources of this Nation confronted two major problems during the past year. First, the immediate war job or problem of making available the lumber, pulpwood, veneer and other products needed to meet war demands. Second, the ever-increasing depletion of the Nation's forest resources. This second problem involves the initiation of adequate action to provide for the production of our future timber needs of both a war time and peace time nature. The 202,000,000 acres of privately owned commercial non-farm forest land form a vital and major part of both of these problems.

Activities of the personnel under this project during the past year have centered mainly on assisting in solving the immediate war production problem. This organization headed the Timber Production War Project which was created at the request of the War Production Board to stimulate the production of forest products needed for the war. It is expected that participation and leadership in this war part of the forest resource problem will be continued as long as the situation demands such action.

The major production bottleneck in the forest products situation is manpower. This can be solved in part by utilization of available labor and equipment in harvesting and manufacturing large trees as contrasted with small trees, in proper "bucking" of trees when cut, and in the application of improved milling practices. Technical advice and services were furnished to improve the cutting, marketing and milling practices of the many owners and operators, especially the small owners and operators, urgently needing such assistance in connection with both immediate and future production problems. Many owners refused to permit their timber to be cut without advance marking so as to insure that a stand of smaller trees would be left on the cutover area and marking assistance was made available to such owners.

The Forest Service, in addition to its war production job, continued its efforts to decrease, and when possible to reverse, the continued depletion of our privately owned forest resources. The last survey of the condition of our 202,000,000 acres of privately owned commercial non-farm forest land indicated less than 10% of this acreage was managed on a sustained yield basis. The best data now available indicate that 74% of the private forest land owners practicing sustained yield management have been aided in bringing their forest resources into this stage of management. In addition, the owners of over 10,000,000 acres of other privately owned commercial non-farm forest land have been aided in applying improved cutting practices even though not as yet of a sustained yield category.

As the war production timber job slackens, the importance of the forest resource reconstruction job will become increasingly vital to the vast number of owners and the many hundreds of forest communities involved. The Forest Service at present is not able, due to personnel and financial limitations, to handle many of the requests received for technical advice and assistance from forest land owners and operators. These requests are expected to increase greatly and the needed technical services and on-the-ground assistance must be provided if the private commercial non-farm forest land of such vital importance to the Nation's welfare is to be placed and maintained in a reasonably productive condition.

(m) Acquisition of Lands for National Forests

Appropriation Act, 1945	\$75,000
Budget estimate, 1946	- -
Change for 1946:	
Overtime decrease	- 10,850
Other decrease	- <u>64,150</u>
	- <u>75,000</u>

PROJECT STATEMENT

Project	: 1944	: 1945 (estimated)	: 1946 (estimated)	: Increase or decrease
1. Acquisition of lands for national forests....	: \$84,567:	\$64,150	: - -	: - 64,150
2. Overtime costs	: 13,786:	10,850	: - -	: - 10,850
Unobligated balance	: 1,647:	- -	: - -	: - -
Total estimate or appropriation	: 100,000:	75,000	: - -	: - 75,000(1)

DECREASE

- (1) The decrease of \$75,000 for 1946 consists of the \$10,850 decrease for overtime, and \$64,150 in working funds, no provision being made in the 1946 budget for an appropriation under this item. The work involved in clearing up old acquisition transactions will be absorbed by the National Forest Protection and Management appropriation.

CHANGE IN LANGUAGE

In line with the elimination of any provision for this item in 1946, the entire language contained in the 1945 Act, quoted below, has been eliminated:

[ACQUISITION OF LANDS FOR NATIONAL FORESTS]

[For the acquisition of forest lands under the provisions of the Act approved March 1, 1911, as amended (16 U.S.C. 513-519,521), \$75,000, of which not to exceed \$20,030 may be expended for personal services in the District of Columbia]

WORK UNDER THIS APPROPRIATION

General: The work under this appropriation has been concerned with the acquisition of land by the Government for national forest purposes under authority of the Act of Congress of March 1, 1911 (36 Stat. 961), as amended particularly by the Act of June 7, 1924 (43 Stat. 653). While the land purchase program was temporarily discontinued on June 30, 1942, and the acquisition organization itself is scheduled for elimination on June 30, 1945, the following outline of the activities normally carried on under this appropriation is submitted for record purposes.

Objective: The long-term objective of this appropriation has been to vest in Federal ownership (a) all lands chiefly valuable for forest purposes within 76 national forest purchase units in 31 states and Puerto Rico, established under the provisions of the aforementioned Acts, and (b) lands in other areas which should be Federally owned and managed; and to so protect and manage such lands as adequately to safeguard the watersheds of navigable rivers and streams and insure future timber supplies. Rehabilitation of blighted regions, stabilization of industries and communities; provision of employment opportunity; and perpetuation and protection of scenic and wildlife resources, are collateral consequences of the basic purposes.

The Problem and its Significance: Privately owned lands on the headwaters of navigable rivers are subject to heavy cutting of timber, over-grazing, improper cultivation and the destructive forces of fires, insects and disease. Such misuse has greatly impaired the absorptive capacity of the soil of much of this land, thereby contributing to floodwater conditions and siltation of river channels. The high restoration of such forest lands to their natural state and normal high capacity to absorb precipitation is essential to the maintenance of the navigability of rivers. Because of their very vital relationship to the economic welfare of the Nation, as major watersheds and sources of timber supply for future needs, their proper protection and management is of primary importance to the country.

Future availability of supplies of commercially usable timber adequate to national needs can be assured only by effective protection of all existing virgin and advanced second-growth forests from denudation by destructive forces, excessive cutting and general waste. Optimum restoration of forest cover, by natural methods of reproduction or by planting, is essential on all other lands chiefly valuable for the growing of trees.

Upon many types and large areas of forest land the attainment of the indicated objectives through private initiative and action is highly improbable, if not impossible. The limited annual increment, or the long periods of rotation, or the initial costs of re-establishing the requisite forest capital or cover, all are adverse to permanent private forest management of the lands. In such circumstances public ownership and management is the only practicable means whereby the economic and social values of the lands can be preserved. In many cases the Federal government is the only public agency in a position adequately to meet the requirements of the situation. It is on these premises that the Weeks Law system of national forests has been established and partially consummated.

Plan: The work under this project normally consists of vesting in Federal ownership those lands within the 76 purchase units that are offered for sale to the United States and which are chiefly valuable for forest purposes. During the fiscal year 1944, 21,294 acres were acquired in existing purchase units, entirely through land exchange. In addition, the organization financed from the appropriation completed the action on cases involving 97,014 acres of land which had been approved for purchase in earlier years.

Revenues: Fees from the sale of timber, grazing, special uses and other sources approximating \$2,700,000 were collected from the 76 national forests and purchase units under this project and deposited in the Treasury for the fiscal year 1944. Twenty-five percent of this sum will be returned to the counties in which the forests are located for maintenance of schools and roads and 10 percent will be used for national forest roads. The annual revenue has been progressively increasing and is expected to continue to increase as the lands bought years ago begin to produce returns from maturing timber and other resources which have been developed or renewed by proper protection and management.

(n) Conservation and Use of Agricultural Land Resources
(Allotment to Forest Service)

This budget schedule covers obligations under an allotment for general administration of the Naval Stores Conservation Program of the Agricultural Adjustment Agency.

(o) Local Administration, Section 388, Agricultural Adjustment Act of 1938 (Allotment to Forest Service)

This budget schedule covers obligations under an allotment for local administrative expenses of the Naval Stores Conservation Program of the Agricultural Adjustment Agency. (See item (n) above)

(p) White Pine Blister Rust Control
(Transfer to Forest Service)

This budget schedule covers obligations for blister rust control work on the National Forests. A discussion of the work is contained elsewhere in the Explanatory Notes for the item "White Pine Blister Rust Control".

(q) Flood Control, General (Transfer to Agriculture)
(Allotment to Forest Service)

This budget schedule covers obligations for works of improvements on the headwaters of streams, including upstream engineering, soil stabilization and reforestation on selected watersheds authorized by various Flood Control Acts.

(r) Ordnance Service and Supplies, War Department
(Transfer to Forest Service)

This budget schedule covers obligations for work on the development of non-metallic land mines for the War Department in the fiscal year 1944.

SPECIAL ACCOUNTS

(s) Payments to States and Territories from the National Forest Fund

Appropriation Act, 1945 (revised)	\$3,894,000
Budget estimate, 1946	<u>3,894,000</u>

PROJECT STATEMENT

	1944	1945 (estimated)	1946 (estimated)
Payments to states and territories from national forest funds (total estimate or appropriation)	\$2,608,870	\$3,894,000	\$3,894,000

The law requires that 25 percent of all money received from the national forest during any fiscal year be paid to the states and territories in which the forests are located. The amount of this appropriation varies each year in direct proportion to national forest receipts during the previous fiscal year. Increases in this appropriation are offset by additional revenue to the Federal Treasury.

(t) Payments to School Funds, Arizona, and
New Mexico, National Forest Fund

Appropriation Act, 1945 (revised)	\$ 38,476
Budget estimate, 1946	<u>38,476</u>

PROJECT STATEMENT

	1944	1945 (estimated)	1946 (estimated)
Payments to school funds, Arizona and New Mexico, national forest fund (total estimate or appropriation)	\$26,888	\$38,476	\$38,476

The States of Arizona and New Mexico are reimbursed in such proportion of the gross proceeds of all the National Forests within those States as the area of land granted to the states for school purposes within the National Forests bears to the total area of all national forests within the States.

These payments are required by the Act of June 20, 1910(36 Stat. 562 and 573) which provides "That the grants of Sections two, sixteen, thirty-two and thirty-six to said state, within National Forests now existing or proclaimed, shall not vest the title to said section in said state ... but said granted sections shall be administered as a part of said forests, and at the close of each fiscal year there shall be paid to the Secretary of State, as income for its common-school fund, such proportion of the gross proceeds of all the national forests within said state as the area of lands hereby granted to said state for school purposes which are situated within said forest reserves ... may bear to the total area of all the National Forests within said state ... the amount necessary for such payments being appropriated and made available annually from any money in the Treasury not otherwise appropriated."

School lands are given the same form of management accorded adjacent national forest lands,

As soon after the close of the fiscal year as the receipts from national forests, and the area of school lands in the States of Arizona and New Mexico are authoritatively determined, the payments referred to above are made to the States. Payments in fiscal year 1945 were \$38,061 to Arizona and \$415 to New Mexico.

(u) Roads and Trails for States, National Forest Fund

Appropriation Act, 1945 (revised)\$1,557,000
Budget estimate, 1946 1,557,000

PROJECT STATEMENT

	1944	1945	1946
		(estimated)	(estimated)
Roads and trails for States,			
National Forest fund	\$ 670,322	\$1,557,000	\$1,557,000
1943 balance available in 1944 ...	- 932,114	- -	- -
1944 balance available in 1945 ...	+1305,340	-1,305,340	- -
1945 balance available in 1946 ...	- -	+1,305,340	-1,305,340
1946 balance available in 1947 ...	- -	- -	+1,305,340
Total estimate or			
appropriation	\$1,043,548	1,557,000	1,557,000

An additional 10 percent of all moneys received from the National Forests during each fiscal year is available at the end thereof to be expended by the Secretary of Agriculture for the construction and maintenance of roads and trails within the national forest in the states from which such proceeds are derived (16 U.S.C. 50).

(v) Cooperative Work, Forest Service
[Trust Fund]

Appropriation Act, 1945\$2,000,000
Budget estimate, 1946 2,000,000

PROJECT STATEMENT

Project	1944	1945 (estimated)	1946 (estimated)	Increase or decrease
1. Construction of improvements...	\$ 211,384	\$ 210,000	\$ 210,000	- -
2. Maintenance of improvements...	250,926	250,000	250,000	- -
3. Prevention and suppression of forest fires	499,258	500,000	500,000	- -
4. Disposal of brush and other debris in timber-sale operations	545,881	887,713	811,000	- 76,713
5. Forest investigations	154,326	155,000	155,000	- -
6. Administration	42,932	42,000	42,000	- -
7. Reforestation	4,991	5,000	5,000	- -
8. Refunds to cooperators	27,676	36,000	27,000	- 9,000
9. Overtime costs	248,949	314,287	--	- 314,287
Total available	1,986,323	2,400,000	2,000,000	- 400,000
1943 balance available in 1944...	-2,272,423	- -	- -	- -
1944 balance available in 1945...	+3,392,114	-3,392,114	- -	+3,392,114
1945 balance available in 1946...	- -	+2,992,114	-2,992,114	- -
1946 balance available in 1947...	- -	- -	+2,992,114	-2,992,114
Total estimate or appropriation	3,106,014	2,000,000	2,000,000	- -

Contributed funds are placed in this trust account, to facilitate the accomplishment of certain projects within the list of activities shown in the project statement, which are of mutual benefit to the Forest Service and to individuals, other public or private agencies, or organizations; to provide for the equitable division of the cost of projects; and to simplify completion by concentrating the direction of the projects under one head.

Many desirable proposed projects are of potential benefit to both the Forest Service and a second party. It is in the public interest to see that the other party or parties defray their fair share of the expense of such projects. This is especially true in the case of fire prevention and suppression on private lands intermingled with national forest lands inasmuch as the Government must necessarily suppress fires on nearby lands regardless of ownership in order to protect its own property. In the case of brush disposal on national forest timber sales, this method of collecting from the operator as he cuts the timber insures the proper disposal of the debris resulting from the sale.

(w) Working Funds (Forest Service)

This budget schedule covers obligations under advances to the Forest Service, pursuant to Section 601 of the Economy Act of June 30, 1932, for services performed for various agencies as indicated in the following Statement of obligations under supplemental funds.

STATEMENT OF OBLIGATIONS UNDER SUPPLEMENTAL FUNDS
(1944 and 1945 figures include overtime costs)

Item	Obligations, 1944	Estimated obligations, 1945	Estimated obligations, 1946
Conservation and Use of Agricultural Land Resources: Cooperation with Agricultural Adjustment Agency in administration of the naval stores conservation program	\$35,511:	\$32,608:	\$29,097
Local Administration, Section 388, Agricultural Adjustment Act of 1938: Cooperation with AAA in administration of the naval stores conservation program	165,947:	135,000:	135,000
White Pine Blister Rust Control: For blister rust control on national forests	949,090:	1,219,900:	1,840,300
Flood Control, General: Preliminary examinations and surveys, and works of improvement, etc., watersheds authorized by Flood Control Acts	70,736:	504,520:	20,000
Ordnance Service and Supplies, War Department: Development of non-metallic land mines	19,988:	- -:	- -
Working Funds (Forest Service)			
Advances from:			
War Department:			
Air Defense Command, for winterizing and operating observation stations	2,056,914:	11,970:	- -
Army Air Forces, for strength studies of wood, plywood, and glues for use in aircraft (joint project with Navy)	100,562:	75,026:	- -
Army Air Forces, for general research and development program, plastics, glue evaluation, seasoning, etc., for aircraft (joint project with Navy)	86,841:	20,772:	- -

STATEMENT OF OBLIGATIONS UNDER SUPPLEMENTAL FUNDS (Contd.)
(1944 and 1945 figures include overtime costs)

Item	Obligations, 1944	Estimated obligations, 1945	Estimated obligations, 1946
Working Funds (Forest Service)			
Advances from (Contd.):			
War Department:			
Engineer Corps, for mapping strategic areas	\$405,535:	--:	--
Engineer Corps, for drafting aeronautical charts	4,546:	--:	--
Ordnance Department, for solving: packaging and container pro- blems, and for instruction courses in container construc- tion and packaging	626,492:	\$273,526:	--
Army Air Forces, for solving packaging and container problems:	108,414:	248,257:	--
Ordnance Department, for inves- tigation of lumber problems in- volved in packaging Army Ordnance items	4,735:	--:	--
Army Air Forces, Air Service Command, for instruction courses on container construc- tion and packaging	18,791:	45,508:	--
Army Air Forces, Material Command, for instruction courses for inspectors of air- craft wood, and instruction in container design	38,993:	11,292:	--
Army Air Forces, Training and Air Service Command, for in- struction courses in wood air- craft maintenance	8,124:	--:	--
Engineer Corps, for protection of maneuver area, West Virginia:	36,101:	31,482:	--
Engineer Corps, for protection of Hunter-Liggett military re- servation, California	36,019:	77,981:	--
Examination, appraisal, ab- stracting, and other expenses in connection with the acqui- sition of privately owned lands	61:	--:	--
Army Air Forces, for certifica- tion of facilities for kiln drying of aircraft lumber	6,023:	28,976:	--

STATEMENT OF OBLIGATIONS UNDER SUPPLEMENTAL FUNDS (Contd.)
(1944 and 1945 figures include overtime costs)

Item	Obligations, 1944	Estimated obligations, 1945	Estimated obligations, 1946
Working Funds (Forest Service)			
Advances from (Contd.):			
War Department:			
Ordnance Department, for			
development of non-metallic:			
land mines	\$34,840:	\$30,160:	- -
Signal Corps, for develop-			
ment of containers and			
packaging of communications:			
equipment and parts	- -:	5,000:	- -
Total, War Department ..	3,572,991:	859,950:	- -
Navy Department:			
Bureau of Aeronautics; for			
strength studies of wood,			
plywood, and glues in air-			
craft (joint project with			
Army)	97,654:	77,934:	- -
Bureau of Aeronautics, for			
general research and devel-			
opment program, plastics,			
glue evaluation, seasoning,			
etc., for aircraft (joint			
project with Army)	49,250:	- -:	- -
Bureau of Supplies and Ac-			
counts, for instruction			
courses in container con-			
struction and packaging ..	3,985:	- -:	- -
Bureau of Supplies and Ac-			
counts, for instruction			
courses on export packaging;			
for Navy personnel	- -:	15,000:	- -
Bureau of Ships, for studies:			
relating to the use of wood:			
in boats, including lam-			
inated construction, fire-			
proofing, preservation, etc.	55,760:	31,100:	- -
Bureau of Ordnance and			
Stores, for development of			
plastic cartridge cases ..	23,405:	1,407:	- -
Hydrographic Office, for			
mapping strategic areas ..	- -:	196,000:	- -
Bureau of Aeronautics, for			
research in cargo flooring			
in naval aircraft	- -:	10,000:	- -
Total, Navy Department ..	230,054:	331,441:	- -

STATEMENT OF OBLIGATIONS UNDER SUPPLEMENTAL FUNDS (Contd.)
(1944 and 1945 figures include overtime costs)

Item	Obligations, 1944	Estimated obligations, 1945	Estimated obligations, 1946
<u>Working Funds (Forest Service)</u>			
<u>Advances from (Contd.):</u>			
<u>Interior Department:</u>			
National Park Service, con-			
struction of a road from			
Las Vegas, Nevada, to Three			
Kids Mine	\$17,330:	- -:	- -
For protection of Oregon and			
California R.R. and recon-			
veyed Coos Bay Wagon Road			
grant lands located within			
the boundaries of national			
forests	19,914:	\$1,952:	- -
For protection of certain			
public lands under the			
jurisdiction of the General			
Land Office	115:	- -:	- -
Relocation of Forest Service			
facilities on lands subject			
to flooding from Shasta Dam,			
California	8,073:	29,413:	- -
Reconstruction of Forest			
Service: telephone lines to			
eliminate power interfer-			
ence caused by Bonneville			
project	902:	5,824:	- -
Total, Interior Department:	46,334:	37,189:	- -
<u>Federal Works Agency:</u>			
Public Roads Administration,			
for investigation of appli-			
cations, and construction,			
maintenance, and improve-			
ment of access roads to			
sources of raw materials .	2,856,957:	1,397,778:	- -
Public Buildings Administra-			
tion, for guard service for:			
building occupied by war			
mapping project	2,854:	310:	- -
Total, Federal Works			
Agency	2,859,811:	1,398,088:	- -

STATEMENT OF OBLIGATIONS UNDER SUPPLEMENTAL FUNDS (Contd.)
(1944 and 1945 figures include overtime costs)

Item	Obligations, 1944	Estimated obligations, 1945	Estimated obligations, 1946
Working Funds (Forest Service)			
Advances from (Contd.):			
Federal Power Commission: For:			
investigation and supervi-			
sion of Federal Power Com-			
mission projects	\$482:	\$900:	- -
Department of Commerce:			
Bureau of Census, for col-			
lection of forest products			
data	11,033:	591:	- -
Office for Emergency Manage-			
ment: For use of the facili-			
ties in Alaska to provide			
fiscal, personnel and pro-			
curement services	12,270:	13,292:	- -
Coordinator of Inter-American			
Affairs: For assistance in			
survey of forest resources			
in other American republics	12,632:	1,728:	- -
Office of Scientific Research			
and Development:			
For secret research with			
wood	1,845:	- -:	- -
For photostating secret			
documents	35,736:	22,264:	- -
Total, Office of Scien-			
tific Research and			
Development	37,581:	22,264:	- -
Foreign Economic Administra-			
tion:			
For survey of balsa wood			
resources in South America	13,620:	- -:	- -
For survey of cinchona re-			
sources of Colombia	8,426:	397:	- -
Total, Foreign Economic			
Administration	22,046:	397:	- -

STATEMENT OF OBLIGATIONS UNDER SUPPLEMENTAL FUNDS (Contd.)
(1944 and 1945 figures include overtime costs)

Item	Obligations, 1944	Estimated obligations, 1945	Estimated obligations, 1946
Working Funds (Forest Service)			
Advances from (Contd.):			
War Production Board:			
Lumber Division, for stimu-			
lating the production of			
forest products needed in			
the war effort	\$942,744:	\$712,256:	- -
Lumber and Lumber Products			
Division, for gathering and			
furnishing information on			
the production, requirements,			
and supplies of forest			
products	275,702:	176,599:	- -
For a survey of pulpwood pro-			
duction in the United States:	5,016:	- -:	- -
Office of Production Research:			
and Development, for a pilot			
plant study of laminating			
ship timbers, and structural			
timbers, design of furnace-			
type dry kiln, water repel-			
lents, etc.	53,462:	148,221:	- -
Office of Production Research:			
and Development, for a pilot			
plant study of the Scholler			
process for the production			
of wood sugar and its con-			
version to ethyl alcohol ..	39,247:	31,146:	- -
Office of Production Research:			
and Development, for a study:			
of the production of high-			
protein feeding yeast from			
wood sugar	7,675:	- -:	- -
Office of Production Research:			
and Development, for a study:			
of the production of wood			
sugar by the modified Ameri-			
can process, rotary digester,			
etc.	17,429:	- -:	- -
For studies of substitute			
woods for Port Orford cedar			
battery separators	10,634:	- -:	- -
Total, War Production			
Board	1,351,909:	1,068,222:	- -

STATEMENT OF OBLIGATIONS UNDER SUPPLEMENTAL FUNDS (Contd.)
(1944 and 1945 figures include overtime costs)

Item	Obligations, 1944	Estimated obligations, 1945	Estimated obligations, 1946
Working Funds (Forest Service)			
Advances from (Contd.):			
Selective Service System: For			
operating Civilian Public			
Service Camps	\$328,828:	\$182,377:	- -
Farm Security Administration:			
For payments in lieu of taxes:	4,483:	6,757:	- -
and for insurance of Govern-			
ment property on Sublimity,			
Ky., and Drummond, Wisc.,			
rural rehabilitation projects:			
War Labor Board: For study of			
job classification of forest			
workers in Pacific Northwest	4,123:	- -:	- -
Total, Working Funds	8,494,582:	3,923,196:	- -
Cooperative Work (Trust Fund):			
Cooperative work in forest in-			
vestigations, or the protection:			
and improvement of the national:			
forests	1,986,323:	2,400,000:	\$2,000,000
Total, Obligations under Supple-			
mental Funds	11,722,177:	8,215,224:	4,024,397

PASSENGER-CARRYING VEHICLES

The 1946 estimates provide for the purchase of not to exceed 162 passenger-carrying vehicles, of which 157 are for replacements of existing vehicles and 5 are additions in connection with increases in funds in the estimates. Because the number of replacements during the past three years (89 in 1945) have been lower than normal, the condition and age of a part of the fleet, as indicated below, is such that it is necessary to replace 157 units. The years of manufacture of the cars to be turned in on the 157 replacement purchases are as follows:

<u>No. of cars</u>	<u>Year of manufacture</u>
3	1934
7	1935
10	1936
46	1937
60	1938
26	1939
5	1940

These vehicles have been operated under practically all conditions of use but the greater portion of the travel has been over rough mountain roads. It is estimated that the average mileage of the old cars at the time of trade-in will be approximately 64,000.

It is also proposed to purchase all replacement cars from the "National Forest Protection and Management" appropriation. This is due to a change in the method of managing and controlling the use of motor equipment in the Forest Service. To facilitate management, accounting, and proper maintenance and replacement of motor equipment, and to provide for equitable distribution of charges to all funds, including working funds, all heavy equipment has been placed in a central equipment pool. Equitable depreciation rates are collected from each appropriation and working fund upon the basis of actual use of equipment. These collections are credited to an account established in the "Protection and Management" appropriation and disbursements made direct therefrom for expenses of the central equipment pool.

PENALTY MAIL
Section 2, Public Law 364, 78th Congress
(Allotment to Forest Service)

	<u>Category 1</u>	<u>Category 2</u>	<u>Total</u>
1945	\$4,725	\$31,099	\$35,824
1946	5,100	37,568	42,668
Change	+375	+6,469	+6,844

Category 1 consists of material mailed in response to specific requests for processed material or in reply to specific problems that have been raised, thus facilitating prompt replies and reducing the number of individual letters which would otherwise be necessary. The material distributed contains the results of Forest Service research work and information on the availability of stumpage, planking methods, range for domestic livestock, revegetation of depleted ranges, timber marketing, opportunities for rental or acquisition of forest lands, etc., and is made up of farmers' bulletins and leaflets, technical and research notes, map folders, printed fire control precautionary measures, and other duplicated statements for which experience has indicated a steady demand.

Category 2 consists of administrative and operational mailings involving the business of the Forest Service which is decentralized to 749 ranger district offices, 144 forest supervisor offices, 10 regional offices, 13 research stations, 25 nurseries and 81 research substations, and over 100,000 timber sale, grazing, and special use permittees.

The increase of \$6,844 for 1946 is needed to meet the cost of increased mailings resulting from the appropriation increases included in the 1946 Budget which will involve additional requests for information on the research work of the Forest Service, as well as additional administrative and operational mailings of such material as purchase orders, time records, vouchers, reports, and related correspondence.

FOREST ROADS AND TRAILS

Appropriation Act, 1945	\$4,161,496
Budget estimate, 1946	10,133,000
Change for 1946:	
Overtime decrease ...	-542,390
Increase	<u>+6,513,894</u>
	<u>+5,971,504</u>

PROJECT STATEMENT

Project	1944	1945 :(estimated):	1946 :(estimated):	Increase or decrease
1. Forest highways	- -	- -	\$5,714,222:	+\$5,714,222 ⁽¹⁾
2. Forest road development:	\$3,656,192:	\$3,619,106:	4,418,778:	+799,672 ⁽²⁾
3. Overtime costs	614,563:	542,390:	- -	-542,390
Transferred to "Salaries	:	:	:	:
and expenses, Procurement:	:	:	:	:
Division, Treasury De-	:	:	:	:
partment"	7,000:	- -	- -	- -
Unobligated balance	968:	- -	- -	- -
Total	<u>4,278,723:</u>	<u>4,161,496:</u>	<u>10,133,000:</u>	<u>+5,971,504</u>
1943 "Forest Highways" ap-	:	:	:	:
propriation available in	:	:	:	:
1944 for "Forest Road	:	:	:	:
Development"	-1,241,555:	- -	- -	:
Total estimate or	:	:	:	:
appropriation	<u>3,037,168:</u>	<u>4,161,496:</u>	<u>10,133,000:</u>	:

INCREASES OR DECREASES

The net increase of \$5,971,504 for 1946 consists of the \$542,390 decrease for overtime, and the following:

(1) An increase of \$5,714,222 under the project "Forest highways" for major repairs or construction work on about 125 miles of highway in 40 States and territories.

Objective: The increase provided for would be used in part for extraordinary maintenance on highways damaged by wartime timber hauling and in part to finance a forest highway construction program related to the progress made on State, county, and community road systems. The ultimate objective of the program is to complete the Forest Highway System which consists of roads which serve the National Forests and which are of primary importance to the States, counties, or communities within, adjoining, or adjacent to the National Forests. The total amount estimated to be required to complete to a satisfactory standard the Forest Highway System in Puerto

Rico, Alaska, and the 40 States that contain National Forests, exceeds \$492,000,000.

The Problem: During the war period, road construction work in the National Forests has been restricted to projects essential to the war effort and has consisted mainly of access roads to facilitate lumber production and to open up mineralized areas. This work was financed from funds made available under the Defense Highway Act which authorized the construction of roads to sources of raw material important to the war effort. None of these projects were included in the Forest Highway System and therefore such construction did not assist in the completion of this system. Many Forest Highways constitute connecting links on State, county, and community road systems. Forest highways were rather generally below the standard of connecting roads before the war started. Location surveys have been completed and plans have already been prepared for projects the estimated cost of which exceeds the \$5,714,222 unappropriated authorization balance remaining in the fiscal year 1942 authorization. This authorization was approved by Congress on September 5, 1940.

Plan of Work: The increase will be used for major repairs or construction work in 40 States and 2 territories in which National Forests are located. Work will be done on approximately 125 miles of highway. A small amount of maintenance work is done each year by the Forest Service on Forest Highways in the East. Approximately \$110,000 will be retained for this latter purpose and for general administration. The remainder, about \$5,600,000, will be transferred to the Public Roads Administration, most of which will be obligated immediately through contracts for construction work. A small amount will be used for force account construction work which includes operation of prison labor camps, maintenance work on in-completed projects, surveys and administration.

(2) An increase of \$799,672 under the project "Forest road development" to maintain existing Forest development roads and trails, and to protect the original investment in these improvements.

The objectives of maintenance are (1) that the transportation facility may give the planned service whenever needed, and (2) that the original investment in these improvements is protected.

The Problem and its Significance: The work planned for the fiscal year 1946 is for the maintenance of the development road and trail system essential for the protection, development, utilization, and administration of National Forest land and resources.

The general policy is to do such maintenance work as is necessary but no more -- also to hold the cost per mile to the minimum practicable with satisfactory results.

Demands for strategic materials, particularly timber and minerals, have greatly increased, and the resulting heavy truck traffic on thousands of miles of development roads has materially added to the maintenance problem. This use is rapidly wearing away road surfaces and will necessitate more than ordinary expenditures for road surface replacement.

A great many old bridges constructed of logs or untreated timber are unsafe and in urgent need of replacement. A considerable number of these were constructed in the early periods of the CCC program in 1933 and 1934 under limitations then in force restricting expenditures for materials. Major repair and replacement in addition to normal bridge maintenance is estimated to cost \$697,000. The roads would be practically useless unless bridges are kept in condition to carry the traffic.

This work is located on National Forests and Purchase Units in 40 States, Alaska, and Puerto Rico.

Plan of Work: Executing the planned and necessary maintenance and bridge replacement work in the fiscal year 1946 involves no unusual difficulties. The mileage and number of roads, trails, and bridges which will require maintenance in 1946 are known; the amount and character of work to be done can be accurately determined in advance; and methods of maintenance have been developed over a long period of time and are well established.

The annual road and trail maintenance job is outlined below:

Truck Trails - total existing system	
(104,183 miles at \$38.50)	\$ 4,011,000
Trails - total existing system	
(151,081 miles at \$6.50)	982,000
Bridge maintenance and replacement	<u>697,000</u>
Total cost of maintenance of all mileage in present system at average annual rate for miles maintained	5,690,000
Deduct for miles not to be maintained by Forest Service in 1946:	
Truck Trails, 17,145 miles at \$38.50 -	\$660,700
Trails, 22,090 miles at \$6.50 -	<u>143,600</u>
	-804,300
Net cost of maintenance for fiscal year 1946	4,885,700
Amount available, Forest Road Development, 1946 estimate	<u>4,418,778</u>
Cost of maintenance which must be done with the "10% Fund"	\$ 466,922

In recent years this appropriation has not been sufficient to finance all essential maintenance. Even with the increase of \$799,672 it will be necessary to use \$466,922 of the "10% Fund" to provide for the maintenance work which is so essential to the adequate protection and management of national forest lands and resources and to protect the investment in roads and trails.

CHANGES IN LANGUAGE

The estimates include proposed changes in the language of this item as follows (new language underscored, deleted matter enclosed with brackets):

Change

No.

- 1 Forest roads and trails: For carrying out the provisions of section 23 of the Federal Highway Act approved November 9, 1921, as amended (23 U. S. C. 23, 23a), and for the construction, re-construction, and maintenance of roads and trails on experimental areas under Forest Service administration, (1) \$4,418,778 for forest development roads and trails (including not to exceed
- 2 [\$70,000] \$68,846 for personal services in the District of Columbia [\$4,161,496 for forest development roads and trails]), and (2)
- 3 \$5,714,222 for forest highways, which latter sum is the balance of the amount authorized to be appropriated for the fiscal year 1942
- 4 by the Act of September 5, 1940 (54 Stat. 867), in all, \$10,133,000, to be immediately available and to remain available until expended: Provided, That this appropriation shall be available for the rental, purchase, construction, or alteration of buildings necessary for the storage and repair of equipment and supplies used for road and trail construction and maintenance, but the total cost of any such building purchased, altered, or constructed under this authorization shall not exceed [\$7,500] \$10,000, with the exception that any building erected, purchased, or acquired, the cost of which was \$10,000 or more, may be improved within any fiscal year by an amount not to exceed 2 per centum of the cost of such building as certified by the Secretary, and that \$10,200 may be expended for the installation of a heating plant in, and for other betterments to the Sellwood shop buildings in Portland, Oregon.

The first change in language restates the fund provision for forest development roads and trails.

The second change in language provides for the appropriation of \$5,714,222 for Forest Highways, which is the balance of the legislative authorization for this program for the fiscal year 1942.

The third change increases the individual building construction and alteration limitation from \$7,500 to \$10,000. Included also is proposed authority for the betterment of shop and warehouse buildings constructed for roads purposes to the extent of 2 percent per year, which have reached or exceeded the proposed statutory building limitation of \$10,000.

While very few buildings are being constructed from road and trail funds at the present time, it is recommended that the building limitation be brought into line with the general advance which has taken place in the cost of building material and wages since the present building limitation was established in 1938. Building costs have advanced approximately 33-1/3 percent since that year. The demand for additional warehouses and shops on the national forests exists now, but cannot be satisfied because of a shortage of manpower and materials. This increase in limitation is recommended to permit the Forest Service to be in a position to construct buildings of adequate size and quality when conditions permit

The buildings costing more than \$10,000 were received mainly by transfer from the Civilian Conservation Corps. Effective operation of such buildings frequently requires minor changes and betterments such as new partitions, doors, windows, extension of service lines, etc., which are clearly not

The fourth change would authorize the Forest Service to expend \$10,200 for the installation of (1) a heating plant and (2) a row of windows in the main shop and storage building of the Sellwood shops, Portland, Oregon, and (3) the construction of a storage shed along the north wall of the same building. This building was acquired in the fiscal year 1943, together with 3-1/3 acres of land and a small office building at a cost of \$37,500. The main building was formerly used as a car barn and contains 80,000 sq. ft. of space, but is not equipped with a heating system, and is practically devoid of windows. It is now used for the storage and repair of equipment, and includes such facilities as a carpenter shop, machine shop, blacksmith and welding shop, general repair shop, and a shop office. Without a heating system it is impossible to operate the plant efficiently. Some items of equipment and supplies cannot be stored in the building because of the danger of freezing. Workmen in the shops suffer from colds and there is a substantial loss of time due to sickness.

It is planned to install a low pressure vapor heating unit. The total cost of the system, including the appraised value of material now on hand which can be used in constructing the system, is estimated at \$7,000. The windows will cost in the neighborhood of \$1,100. They will be installed along the entire north wall of the building, a distance of approximately 400 feet. The shed roof for outside storage will be attached to the north wall of the building, below the windows mentioned in the preceding sentence. This shed roof is needed to provide outside storage for the heavier items of equipment, and to provide a storage area, under cover, during periods of heavy concentrations of equipment at the shops. The estimated cost of the shed roof is \$2,100.

WORK UNDER THIS APPROPRIATION

Forest Highways:

Objective: The work under this project is concerned with roads on the Forest Highway System, consisting of roads which are of primary importance to the States, counties, and communities adjoining and adjacent to the National Forests. The System, located in Puerto Rico, Alaska, and the 40 States which contain National Forests, is composed of 24,453 miles of highways.

The Federal Government has a definite obligation to the public to provide for adequate highway transportation necessary to the national forests and of primary importance to the States, counties, or communities. The highway transportation system in and near national forests should for obvious reasons be advanced in step with connecting highways.

General Plan:

Maintenance: In accordance with the provisions of cooperative agreements which provide for the construction of Forest Highways, maintenance is to be financed from federal funds for two years after the completion of construction. Existing Forest Highway cooperative agreements require the maintenance of approximately 300 miles of roads in the fiscal year 1946.

Construction: The work consists of the betterment and construction of Forest Highways in Puerto Rico, Alaska, and the 40 States in which National Forests are located. During the fiscal year 1944 very little construction work was performed. Two prison labor camps were continued in operation during the year and these two camps accounted for the major part of the 13 miles of highways constructed in that period.

Forest Development Roads and Trails:

Objective: During the war the objective is to do the maintenance work necessary to preserve the Federal investment in the existing system and to provide for essential travel. The existing system includes 104,183 miles of truck trails and 151,081 miles of foot and horse trails necessary for the protection and administration of the National Forest lands and resources. Many of the roads are used to haul strategic materials, principally timber and minerals.

The Forest Road Development Fund will all be needed for necessary maintenance. No construction work is planned for the fiscal year 1946.

The Problem and its Significance: The gross National Forest area is approximately 10 percent of the entire area of the continental United States. The area is generally rough, rugged, mountainous, and remote. The forests contain about 552 billion board feet of commercial saw timber besides many other timber, land, and water resources. Some 80,000,000 acres of the National Forests are utilized for grazing; resulting in important production of meat, hides, and wool. Developed and undeveloped water power amounts to 11 million horsepower. Mineral resources in the forests, especially such as chrome, tungsten, mercury, are vital to the war program. Nearly four million people live in or near the National Forests.

Providing the transportation system necessary for the proper and efficient administration, protection, development, and utilization of the National Forest land and resources is an obligation of the Federal Government.

General Plan: On June 30, 1944, the planned Forest Development Road System consisted of the following miles of existing and proposed truck-trails and trails:

	Truck-trails		Trails	
	Miles	Percent	Miles	Percent
Satisfactory standard ...	62,647	46	115,723	68
Unsatisfactory standard .	41,536	30	35,358	21
Nonexisting	32,387	24	18,731	11
Total	136,570	100	169,812	100

The Program: The program for 1946 is to maintain the existing system as required to preserve the investment, and to provide for travel of war necessity such as fire control, production of strategic materials particularly timber but including minerals and the products of agriculture and grazing lands, and for essential travel to serve communities in and near the forests. This will necessitate maintenance on about 87,000 miles of roads and 129,000 miles of trails. Heavy maintenance and replacement is necessary on many bridges. About 15 percent of the total maintenance expenditure will be on bridges.

Any maintenance work that can be deferred without adversely affecting the Federal investment or impeding necessary travel, will be postponed.

No reconstruction work is planned on the 41,536 miles of truck-trails and the 35,358 miles of trails which are now existing but of inadequate standard to meet the needs. Nor is construction work contemplated on the 32,387 miles of truck-trails and 18,731 miles of trails now non-existent but which are considered necessary for the National Forest administration, protection, utilization, and development.

EMERGENCY RUBBER PROJECT

Appropriation Act, 1945 (1943 balance reappropriated)	\$3,020,985	
1944 balance available in 1945	<u>2,399,015</u>	
Total available, 1945		\$5,420,000
Budget estimate, 1946:		
Reappropriation from 1942 and 1943 balances .	4,436,662	
1945 balance available in 1946	<u>563,338</u>	
Total available, 1946		<u>5,000,000</u>
Change for 1946:		
Overtime decrease ...	-\$229,704	
Other decrease	<u>-190,296</u>	<u>-420,000</u>

CONSOLIDATED PROJECT STATEMENT

Project	1944	1945 (estimated)	1946 (estimated)	Increase or decrease
1. Guayule	\$8,713,950	\$5,109,689	\$5,000,000	-\$109,689 (1)
2. Kok-saghyz	593,843	- -	- -	- -
3. Goldenrod	267,253	- -	- -	- -
4. Cryptostegia	36,973	39,607	- -	-39,607 (2)
5. Overtime costs	473,628	229,704	- -	-229,704
Unobligated balance	- -	41,000	- -	-41,000 (3)
Total obligations	<u>10,085,647</u>	<u>5,420,000</u>	<u>5,000,000</u>	<u>-420,000</u>
Reappropriation of prior year balances in 1946.	- -	- -	-4,436,662	
1943 balance reappropri- ated in 1945	- -	-3,020,985	- -	
1944 balance available in 1945	+2,962,353	-2,962,353	- -	
1945 balance available in 1946	- -	+563,338	-563,338	
Total estimate or appropriation	<u>13,048,000</u>	- -	- -	

INCREASES OR DECREASES

The net decrease of \$420,000 for 1946 consists of the \$229,704 decrease for overtime, and the following:

- (1) Guayule: A decrease of \$109,689 to be met by a reduction in the size of plantation operations to be carried on, including a reduction in the acreage rented, and by the fact that no new mill construction is contemplated in 1946, whereas one mill was erected at Bakersville, California, in 1945. Also involved is a reduction in the volume of research work on previously established indicator plantings and experimental areas, and the completion of certain phases of agromomic and extraction research.

- (2) Cryptostegia: A decrease of \$39,607 under this project resulting from the proposed discontinuance of this work on June 30, 1945.
- (3) A decrease of \$41,000, originally earmarked for cryptostegia investigations, but subsequently placed in a Budget reserve in the fiscal year 1945.

CHANGE IN LANGUAGE

The following language has been eliminated from this item:

[purchase of passenger-carrying vehicles;]

This language authorized the purchase of passenger-carrying vehicles for field work of the Emergency Rubber Project. Since Section 3 of the General Provisions of the 1946 Estimates contains authority for the purchase of such vehicles for field use from appropriations carried in the 1946 Act, it is not necessary to include a similar authorization in each individual appropriation item.

WORK UNDER THIS APPROPRIATION

The Emergency Rubber Project is a joint operation in the Department with funds allotted and transferred to participating bureaus and offices as indicated in the following statement:

Bureau or item	1944	1945 :(estimated):	1946 :(estimated)
Forest Service	\$8,655,984:	\$4,734,909:	\$4,828,905
Bureau of Plant Industry, Soils and	:	:	:
Agricultural Engineering	541,213:	266,263:	90,000
Bureau of Agricultural and	:	:	:
Industrial Chemistry	352,464:	106,124:	63,595
Bureau of Entomology and Plant	:	:	:
Quarantine	15,558:	17,000:	5,000
Overtime costs	473,628:	229,704:	- -
Unobligated balance	- -:	41,000:	- -
Transferred to:	:	:	:
"Salaries and expenses, Office of	:	:	:
Solicitor"	25,000:	25,000:	12,500
"Salaries and expenses, Office of	:	:	:
Information"	800:	- -:	- -
"Salaries and expenses, Procure-	:	:	:
ment Division, Treasury Depart-	:	:	:
ment"	21,000:	- -:	- -
Total obligations	10,085,647:	5,420,000:	5,000,000

Guayule

The purpose of this program is to provide a source of natural rubber as an insurance policy for the immediate future, particularly for the manufacture of heavy duty tires and other products requiring the admixture of natural rubber.

Approximately 32,000 acres of Guayule were planted in the fiscal years 1942-44 to obtain an emergency source of crude rubber for the nation's stockpile. Harvesting and milling of these plantings began in the fiscal year 1945, the earliest feasible time to obtain rubber from such plantings. A limited amount of wild shrub was milled, however, prior to that time. Recent statements by the Director of the Rubber Bureau (War Production Board), the Rubber Development Corporation, the Allied Nations Combined Raw Materials Board, and the large rubber manufacturers of this country emphasize our constantly shrinking stockpile of natural rubber as well as the increased demand for heavy duty tires requiring a substantial percentage of natural rubber. This demand is coming from both military sources and bus and truck operating concerns. These statements indicate that natural rubber for 1945 and 1946 is still one of the extremely critical strategic materials.

The Budget estimate contemplates the return to the owners of 10,000 acres of the land planted to guayule under this program which give the least promise or are the most costly to maintain. This involves removal and disposition of the shrub, without recovering the rubber therefrom, and the reconditioning of the land.

Under this program the two mills operating in fiscal year 1945 will continue in operation. If these two mills are operated at maximum capacity, it is now estimated that a total of about 22,000 long tons of rubber can be produced in the period July 1, 1944 to June 30, 1952 at which time the remaining plantations will have been milled out. The maximum yearly production of these two mills will be reached in 1950 when 3500 tons should be produced.

It is planned to cultivate, and to irrigate where necessary, the plantations remaining after the 1945 harvest and after the 10,000 acres of plantations have been eliminated. Operation of the established mills will require 24,000 tons of shrub in the fiscal year 1946, which will produce about 2,100 long tons of rubber. After harvest of the shrub and removal of improvements, the harvested land will also be reconditioned for return to the owners. Such research as is to be continued will be directed toward the betterment of the crop or to economies in maintaining the plantations and processing the rubber from the shrub.

Progress and Current Program:

Harvesting and rubber production: Between October 1943 and April 1944 about 2,400 tons of wild guayule shrub were harvested in Texas and milled at Salinas, California, producing 510,080 pounds of crude rubber. This production, plus the rubber produced from one 13-year-old cultivated field at Salinas, California, which was milled out in 1943, totals 1,390,348 pounds (621 long tons approximately).

In November 1944, harvesting was begun on cultivated guayule planted during the first year of the project. A small amount of the shrub will be three years old, the remainder two years old. Total estimated production for fiscal year 1945 is about 600 long tons.

The new mill at Bakersfield, California, which will get into operation in March 1945, and the Salinas mill on which reconditioning was finished in December 1944, will incorporate a number of changes which have been developed through research and operating experience since the project was initiated. The basic system of pebble milling is unchanged but pretreatment of the shrub, cleansing, and drying of the rubber will be handled much more efficiently than was possible in the old Salinas mill.

In addition to the increased production, economies in operation will be effected. Each mill will operate continuously, three shifts a day, processing approximately 30 tons of dry shrub per day. The old Salinas mill required 75 men for each 24 hours while the new mill with similar capacity will operate with 45 men per day. Research and experience have made possible the recovery of 90% or more of rubber from the shrub while formerly only 65% to 75% of the rubber could be recovered. This increased milling efficiency means the recovery of about 25% more rubber from a unit of mature plantations than would be expected from the original milling procedures. Commercial milling of 2-year-old shrub has never been previously accomplished.

The harvest of shrub from some 1,700 acres of field plantations during the fiscal year 1945 will be required to supply the mills with shrub. Improved harvest methods have been developed, including a simple shrub digger, a side delivery rake for concentrating the harvested shrub and the use of a modified hay baler which will reduce harvesting costs.

Planting: In the fiscal year 1944 planting was completed on all lands under lease. Improvements in planting machines decreased appreciably the previous cost of planting and reduced planting crews from 14 to 10 persons without loss of efficiency. Under the 1945 and proposed 1946 programs, no more field acreage will be planted. Total field plantation acreage in July 1944 was about 31,350 of which approximately 22,000 acres are on irrigated land and the balance on unirrigated land. In addition to this field acreage the July 1 report shows about 1,000 acres in 95 indicator plots and experimental areas which were established in California, Arizona, Texas and New Mexico in 1942 and 1943.

While guayule can be planted satisfactorily from mid-October to early April under favorable conditions, the optimum season as demonstrated by 1944 survival seems to be from December 1 to March 15.

Survival of seedlings planted during fiscal year 1944 runs from 70 to 75% due to improved planting methods, excellent stock and well prepared soil. This is higher than was obtained during the 1942 and 1943 planting seasons. Initial growth in fiscal year 1944 also has been better than in 1943.

Field reservoir of rubber: The 31,350 acres of guayule plantations now established, together with experimental plantations and shrub on lands used originally as nurseries, represent an estimated potential supply of approximately 26,000 long tons of rubber, assuming that the shrub were harvested and milled in an orderly and most economical manner under a program starting in fiscal year 1945 and continuing through fiscal year 1950. Within a limit approaching perhaps 8 to 10 years, the longer this shrub remains unharvested the more rubber per acre the shrub accumulates. The estimate of potential production of 26,000 tons is not based on maximum potential production of rubber per acre, but on the most economic production of rubber from the planted shrub as estimated in the light of present knowledge of guayule growth, and best planned utilization of extraction plants. The elimination of 10,000 acres of shrub during fiscal year 1946 will leave intact approximately two-thirds of the present acreage. From the reduced acreage the two existing guayule mills could produce an estimated 22,000 tons of rubber in seven years.

Plantation care: Based on the experience of past years, economies have been possible in cultivation, weeding and irrigation of plantations. Studies of rubber accumulation and related growth of shrub have resulted in material reduction in the planned amount of irrigation. All irrigated plantations are being irrigated sparingly so as to promote good rubber accumulation associated with moderate vegetative growth. Since mill capacity is based on the amount of shrub which can be fed into it, smaller shrub with higher rubber content makes for more efficient milling. Reduced irrigation also reduces costs of cultivation and weed control.

Very definite savings in both manpower and cost per acre have been made possible through the use of oil sprays in controlling weeds in both nurseries and plantations. Winter weeds which constitute a real problem on dry land areas as well as on some of the irrigated plantations have been controlled by oil spraying. This operation also reduces the amount of hand-hoeing required.

Nurseries: Four nursery areas have been dismantled or are in the process of being dismantled and the land returned to the owners. About 22,600 seedbeds containing some 400,000,000 seedlings are being cultivated as plantations for rubber production. The nursery area shrub varies in size due to varying conditions of climate, soil and treatment. At present a portion of the shrub is still of sufficient quality and suitable size to be used as planting stock. It is possible that another 10 to 20 million seedlings, still of plantable size, may be made available to the Continental Mexican Rubber Company in February, 1945. If this shrub is harvested and milled during fiscal year 1945, it is estimated it will produce some 200 long tons of rubber. It may be desirable to defer harvesting some of this shrub until fiscal year 1946 in order to increase rubber content and reduce uncertainties as to the millability of the young shrub. In the spring of 1944 thirty million seedlings surplus to the requirements of the project were sold and shipped to Mexico for planting by the Continental Mexican Rubber Company. A small supply of seedlings was sold to General Tire Company for experimental plantings in Mexico.

Seed: Since the project was started, about 8,453 pounds of seed have been distributed domestically and to foreign nations. Of this, 5,050 pounds were sold to rubber companies in Mexico. From the seed harvest of 1943 there remain in storage 375,000 pounds. Seed was not gathered in 1944.

Current seed germination tests indicate 375,000 pounds are a sufficient quantity to produce planting stock from which 400,000 to 500,000 acres could be planted. Definite information as to the number of years over which guayule seed will retain its viability under specific storage conditions is lacking, but past experience indicates that seed may be expected to retain reasonably good viability for 8 to 10 years. Only small experimental lots of seed were collected during the fiscal year 1945.

Labor and housing facilities: A total of 18 labor camps having a worker-capacity of 8,500 persons were erected on the project in the fiscal years 1942-43. Six camps with a capacity of 2,900 workers have been disposed of to other agencies engaged in war work. One additional camp is now in the process of transfer. The remaining camps are leased periodically to organizations engaged in war activities when not needed for project work. Further transfers will be made as camps are determined to be surplus to the project's needs.

Soil surveys: Field work on the soil surveys program has been completed. Data were accumulated not only on soil conditions but also on climate, water supply and economic factors which will affect the production of guayule.

These surveys indicate that the broad geographic area within which guayule may be grown is within a strip about 150 miles wide along the international border from Brownsville, Texas to southern California, then following the California coast and San Joaquin Valley northward to the bay region, then up the Sacramento Valley as far as Red Bluff.

Within this broad belt surveys have classified certain lands with respect to guayule production as follows:

Approximately 785,000 acres of irrigated and 450,000 acres of non-irrigated lands now in cultivation are considered to be suitable for guayule cultivation. Of other lands now in cultivation, 780,000 irrigated and 730,000 non-irrigated are considered as possible but of questionable suitability. Of this two and three-quarter million acres, about one-half of the suitable and questionable lands are in California, the balance with the exception of a relatively few thousand acres in New Mexico, is divided between Texas and Arizona. In addition another two to two and one-half million acres of land in Texas not yet cleared for agriculture would be satisfactory for the growing of guayule.

Plant research: The guayule research program proposed for the fiscal year 1946 is designed primarily to supply technical guidance in managing the plantations until milling is completed. A second objective is the completion of field experiments already well under way, directed toward finding the most economical methods of producing rubber, particularly in dry-land and marginal irrigated areas.

One hundred forty-six indicator plots of one acre or less in size were established in 1942 and 1943 throughout the territory where surveys have indicated probability of guayule production. These plots furnish opportunity to test establishment, growth and yield of guayule under varying soil and climatic conditions. Many plots have served their purpose and have been discontinued. As of July 15, 1944, there remained 76 indicator plots under observation. This number will be reduced after samples have been taken during the winter of 1944-45.

In addition to laboratory studies, field work on agronomic conditions, soil investigations, diseases and their control and the improvement of guayule by selection and breeding has been conducted on about 40 experimental areas totalling some 2,000 acres of plantings. As the production program has been curtailed, reductions have been made in size, number and intensity of these field experiments. Less than 900 acres remain in the 4 States--California, Arizona, New Mexico and Texas. Most of the areas originally set up for experimental work are now being carried as regular plantations for rubber production.

It has been demonstrated that guayule can be established successfully under irrigation by direct field seeding in all areas of the guayule range. However, under some conditions direct seeding does not appear to be practical, and in such areas nursery stock might be produced by direct field seeding techniques in combination with furrow irrigation with lower capital investment than for the usual nurseries with overhead irrigation systems. Direct-seeded plantings at Indio, California, compared with transplanted nursery stock showed almost the same yields after one year, slightly over 300 pounds of rubber per acre. This indicates that by direct seeding it may be possible to shorten the growing period by one year. Direct field seedings can be mechanically cross-blocked, which if successful on a field scale, would greatly reduce the problem of weed control.

Field trials of direct seeding are still under observation. Because of increased first and second year care of guayule plantations established by direct seeding and because of the lower survival of direct-seeded plantations, the saving in this method of planting over the transplanting of nursery-grown seedlings is presently questioned.

Promising results have been obtained in harvesting by mowing tops instead of uprooting the plants. Up to three-fourths of the available rubber in the plant is recovered by top-cutting. Tops yield at least as high a percentage of rubber as entire plants and it is of better quality. Topped plants grow new tops that build up rubber quickly.

Variety tests over a wide area showed that McCallum's variety 593 is the best commercial strain of guayule now available. Tests with a wild strain from the State of Durango, Mexico, indicate that this strain is a faster grower and more uniform than 593. In a planting of over 4,000 strains at Woodward, Oklahoma, 44 selections from wild types survived the winter of 1943-44, pointing to possibilities of developing cultivated types with greater cold resistance. Standard varieties of guayule have been found to be severely injured by cold in parts of New Mexico and Texas formerly considered within the guayule range.

Poor stands in nurseries and direct-seeded plantations have been determined in some cases to be the result of damping-off before the seedlings emerge from the soil, caused by certain species of fungi. Guayule was found to be more susceptible to this pre-emergency damping-off than common crops such as tomato, broccoli, lettuce and onion. Progress is being made in controlling the disease by chemical treatment of the seed before sowing.

Guayule strains vary in their susceptibility to root diseases, particularly to Verticillium wilt and Texas cotton root rot. Selected strains showing resistance to these diseases are being further tested. Disease control service is rendered for both field plantations and experimental areas. A manual of field diseases and their control is in preparation.

On a small scale it has been determined that guayule shrub can be successfully stored in the form of ensilage without deterioration of the rubber. Trench silos might offer a cheap and effective means of shrub storage in order to keep mills in operation during the season when freshly harvested guayule is not available for milling. However, this method has not been proven on a large scale.

Guayule in Latin America: In addition to the indicator plots in the United States, nine have been established in Mexico to determine the possibility of guayule production in the central plateau area, where irrigation is required, and in the grasslands of the States of Durango, Zacatecas, and Guanajuato and the shrublands of the State of Nuevo Leon, where rainfall is sufficient for cultivation without irrigation. Advice and assistance have been extended to private corporations interested in planting guayule at their own expense for rubber production. This work is being conducted in cooperation with the Department of Agriculture of Mexico, which has supplied all land and facilitated the work in many ways.

Advice and assistance have been extended to Argentina, Chile and Uruguay. Nurseries have been established under direct guidance from this Department and field plantings were made in areas indicated by our surveys as being suitable for cultivation of guayule. After this preliminary assistance, no further active participation in the work in these countries is contemplated, though further advice and assistance may be extended by correspondence.

Insect control: Several important insect problems have arisen in connection with the propagation of guayule. The most serious insect pest has been the grasshoppers moving in from the wild range on to the plantations in California. Poison bait programs reduce losses from these outbreaks to minor proportions.

The program to develop high-yielding strains and good seed crops of guayule has suffered from attacks of plant bugs of the genus *Lygus* which have caused sterility in some strains of seed. In some experimental areas the harvester ant, lacebugs, leaf-cutting ants and termites have been sufficiently injurious to require control measures.

Processing research: Intensive laboratory and pilot plant studies have been made looking to the development of improved methods for the manufacture of guayule rubber.

These efforts have been focused primarily on items of design of the first new factory as being of first importance, and directed toward solving of the new and special problems presented in the processing of young shrub and toward the production of a higher quality rubber at a lower cost.

Through a combination of research, pilot mill operation and factory trial, a refinement of the pebble milling process has been completed, equipment for chopping, crushing and drying the shrub has been largely standardized and the proper method of storing baled shrub has been determined. Defoliation prior to milling has been adopted as a standard practice as it reduces the amount of material to be milled and improves the quality of the rubber.

Young shrub is far more difficult to handle before and during processing than the old shrub, for which a method of processing, while not entirely satisfactory, has been developed, and on which most of the information available has been based. Improvements over former methods employed have been developed and information of distinct value obtained concerning methods which could not be applied to young shrub. Some of the more important developments are noted below.

Young shrub has abundant foliage which is very low in rubber content and presents difficulties in processing. Foliage removal by brief immersion of bales in boiling water, will offer economies in whatever storage and conditioning of shrub may be required for year-round factory operation and will increase markedly the rubber producing capacity of factories.

Studies of the complicated problem of retting large quantities of young shrub have developed the possibilities of a brief but effective retting of shallow layers of cut shrub. It is hoped that such retting will result in further increase of factory milling capacity and the production of a crude rubber markedly lower in resin content.

Waterlogging of cork that contaminates crude rubber after milling is to be accomplished by means of a few seconds application of high pressure in place of the former 80-minute batch treatment in large pressure vessels. This method will offer smoother flow of material and lower equipment and operating costs.

Studies in tray and continuous belt dryers have further confirmed the marked advantages to be gained by the air drying of rubber in a continuous through-circulation belt dryer over conventional batch-drying in vacuum. Developed also were the advantages of drying at lower temperatures; gradually stepped up to a final 200° F. and, in the handling of tacky young-shrub worms, the advantages of a single belt dryer over a two-belt dryer in simplicity and control of operation and some reduction in initial cost.

Other contributions to factory design and operation have been made in connection with the preparation of shrub for milling, flotation, worm purification and other items.

Work is proceeding on items involving first factory operations which had been deferred for work immediately affecting factory design. Investigation is chiefly in connection with the reduction of insoluble material in the crude rubber by means of treatment with caustic, ammonia and detergents of various types.

In connection with reduction of insolubles, laboratory-scale investigation is being conducted on deresination with acetone for comparison of low-insolubles, acetone-extracted rubber with the product of alcoholic potash deresination which produces low-insolubles rubber.

Current investigation of recovery of rubber as latex will increase in scale in the fiscal year 1945. Efforts will be concentrated on a combination latex-retting process which offers two grades of rubber, one of high quality and the other better than the present resiniferous grade.

Pretreatment of shrub: Chemical pretreatment of shrub in order to make subsequent processing simpler, less severe and less costly holds possibilities as yet inadequately investigated. If such investigation is not completed in 1945 and holds further substantial promise, continuation is considered warranted.

Quality of guayule rubbers: The exact reasons for variations in quality of guayule rubbers obtained by various methods and treatments and the reasons for certain points of inferiority to hevea rubber are not clear and research to determine the constituents of guayule rubber which are harmful, neutral or beneficial appears desirable in order to furnish definite guidance in efforts to improve guayule quality.

Investigation of the compounding of the various guayule rubbers alone and with synthetics is also planned, so that reliable information on guayule rubbers will be available.

Tests recently completed by the B. F. Goodrich Company on experimental lots of resinous and deresinated California guayule rubber were designed to learn whether guayule could be used as a 100 percent replacement for hevea rubber in the outer plies of large heavy duty tires, and whether it would serve as a cement between the GR-S plies to secure building tack. These tests were confined to Heavy Duty 9.00" x 20" tires. Standard GR-S rubber was used in the tread and sidewalls, the carcass plies and in the ply under the tread.

The all-important No. 9 and No. 10 carcass plies were made from guayule rubber. Plies Nos. 9 and 10 are critical and, in most cases, it has been necessary to use hevea rubber to reduce heat deterioration.

In laboratory tests the tires were run to blow-out failure, which occurred in every case in the GR-S plies.

In road tests, although failures from smooth tread, tread cracks, ply failures, etc., were recorded, in no case was there failure in the guayule plies No. 9 and No. 10.

Guayule as a cement was not satisfactory as a 100 percent replacement for hevea rubber.

In conclusion the Report states:

"In view of the foregoing, untreated guayule should be considered for use as a substitute for natural (hevea) rubber in tire stocks. It is recommended that further testing in tires be done to substantiate this conclusion."

High quality rubbers: Deresinated rubber, higher quality guayule rubber than the ordinary resiniferous or retted product, may be required for general or specific purposes in the present rubber shortage situation and it is considered advisable to prepare, within limits of funds, to meet such demands. For this reason continued investigation of the most promising deresination processes is planned: Extraction by alcoholic potash and extraction by acetone preceded by treatment to reduce the insoluble content of the crude rubber. That definite quality improvement can be obtained by deresination is already established and the objective of such work will be to determine the process which will offer the best quality-cost balance.

Rubber from guayule latex: Guayule rubber most nearly approaching hevea in its "nerve" and certain other characteristics has been obtained from the latex of lush shrub. Investigation of latex recovery has been limited considerably by the centrifuging equipment available but possibilities of recovery of rubber from dilute dispersions of latex by means other than centrifuging offer promise. A combination latex-retting process, purposely limiting the amount recovered as latex, offers the best over-all cost possibilities and is favored, with mechanical coagulation, for continued investigation.

By-products: Guayule bagasse, leaves and resins offer many by-product possibilities: Alcohol or yeast from hydrolyzed bagasse, plasticizers, plastics, resins and pharmaceutical products from resins. Processing guayule rubber creates a considerable tonnage of waste material as compared with the crude rubber produced. Perhaps some of this material will find its highest use as fuel for the processing plant. If a portion of the waste material could be marketed at a profit, this would effect a reduction in the cost per pound of crude rubber produced.

Extraction by Jordan process: Studies are being conducted to evaluate the cost of processing the shrub with the Jordan type paper mill as a substitute for the pebble milling. At this stage of the development the chief advantages of this method are that the acetone and benzene insolubles in the crude rubber resulting from this process are reduced by at least 50% in experimental extraction compared with rubber milled by the conventional pebble milling process, and that greatly reduced power costs are indicated.

New factory operations: The new factory now being constructed at Bakersfield, California, will process young shrub grown under climatic and soil conditions different from Salinas, where experimental work is being carried on. The behavior of young shrub in processing has been found to vary appreciably with the seasons and other field conditions. What differences will be found in processing Bakersfield shrub cannot be predicted with certainty.

In view of the above and of the innovations designed into the new factory, it is anticipated that studies of operations and experimental work will be required to assist in removing inevitable "bugs" and in obtaining the highest efficiency and quality of product possible. Additional study of retting under Bakersfield conditions also may be desirable.

General: The foregoing research and development program is directed primarily toward obtaining results that can profitably be applied within the limitations of the present program.

Cryptostegia

The development of cryptostegia as an emergency source of natural rubber became a part of the over-all rubber production program. The Board of Economic Warfare (now the Foreign Economic Administration) made a contract with a Haitian corporation, the Societe Haitiano-Americaine de Developpement Agricole (commonly known as SHADA) for the planting of up to 100,000 acres of cryptostegia. Further contracts for the cultivation in Mexico were considered but none was consummated. The program in Haiti did not develop as expected and instead of up to 100,000 acres, only 43,000 acres were actually planted. Of these 43,000 acres only approximately 14,000 were finally considered as having given satisfactory growth. Yields were disappointing and estimates of cost of producing the rubber were high. During 1944 the contract with SHADA was canceled and all plantings other than experimental plots were destroyed.

Progress and Current Program:

Tipping tests: The study of yields of cryptostegia obtainable by tipping the long whip-like leaders has been continued. Further tests of the sled device have indicated that appreciable savings may be made in the cost of rubber collection and that the quality of the rubber so produced is satisfactory. A new tipping procedure, developed in Mexico, gives even greater promise. This involves clipping the plants with hedge clippers, followed by dragging oiled cloth over the tops of the plants to collect the exuding latex. Surprisingly good results have been obtained in the preliminary tests of this device and appreciable savings appear possible in the cost of rubber collection. This involves, in addition, the development of practicable methods of saving the clippings and mechanically separating the rubber which coagulates as plugs on the ends of the clipped branches. In the hand-tipping methods, these rubber plugs from clippings are picked by hand but to get the maximum savings in manpower it would be necessary in using hedge clippers to collect the clippings and separate the plugs mechanically.

Processing research: Efforts over the past two years to develop a mechanical method for the recovery of rubber from cryptostegia leaves and stems have been entirely unsuccessful. About 90% of the rubber in cryptostegia leaves occurs firmly bound in protoplasts in the palisade cells and cannot be recovered directly either by solvent extraction or by any known mechanical disintegrating devices.

However, it has been established in pilot laboratory experiments that anaerobic fermentation of boiled cryptostegia leaves with Clostridium roseum will liberate the rubber-bearing protoplasts, permitting their separation from the bagasse by passage of the material over a vibrating screen. The "cell" rubber may then be recovered by successive extraction with acetone and benzol. This step is quite analogous to the solvent extraction method found necessary to recover rubber from goldenrod.

Further purification of this solvent extracted rubber yielded a product having poor tensile and other properties. Although this procedure, i.e., retting followed by solvent extraction, may be technically feasible, there is serious question of its commercial practicability, particularly in view of the low quality product obtained.

Plan of Work: In view of the discontinuation of all field plantings of cryptostegia in Haiti, all phases of research on this plant having to do with immediate emergency production of rubber will be terminated during the fiscal year 1945.

PASSENGER-CARRYING VEHICLES

No new passenger-carrying vehicles were purchased for this project in 1945. As most of the 50 old vehicles required for the transportation of project technical workers and supervisory officers between headquarters projects and districts were acquired from surplus property lists, and on which annual maintenance is high, it is now desired to purchase two new vehicles to provide dependable transportation for necessary field inspection.

SALARIES AND EXPENSES,
WAR FOOD ADMINISTRATION

SALARIES AND EXPENSES, WAR FOOD ADMINISTRATION

Appropriation Act, 1945	\$30,700,000
Budget estimate, 1946	<u>10,000,000</u>
Change for 1946:	
Overtime decrease	-1,853,807
Other decrease	<u>-20,700,000</u>

The funds appropriated under this item are used, under the direction of the War Food Administrator, to finance war food and related activities of the Office of Distribution, Agricultural Adjustment Agency, State Extension Services, Office of Materials and Facilities, and other components of the War Food Administration. The over-all direction and coordination, as well as the special war services financed by this appropriation are essential to effective war food administration.

These activities include such wartime functions as (1) determination of total food requirements and assignment of allocations, based on total food supplies, among civilians, military, allied and other claimants, (2) food order administration and enforcement, including set-aside orders to reserve needed supplies for the armed forces and allies, limitation orders to conserve supplies or divert them to essential uses, and orders containing quota provisions to restrict sales of critical commodities to civilians on the basis of percentages of past consumption, (3) ascertaining requirements and providing critical materials for the food processing industry, (4) determination of civilian food requirements, to assure adequate supplies for civilian needs, and best use of such supplies, (5) development of National and State production goals for food crops and for feed and other agricultural crops, (6) local service to farmers in feed transportation and distribution, rationing and allocation of farm machinery, building supplies, fertilizer, etc., and certification for tires and off-highway gasoline, (7) State Extension assistance in emergency production and conservation programs, (8) assuring an adequate supply of farm and food processing machinery, equipment, materials and facilities to assure meeting production goals by securing WPB allocations of critical materials, and scheduling the production of agricultural and processing equipment and component parts, and (9) farm wage ceiling determinations in critical areas where inflationary wages threaten the successful production or harvesting of crops.

The tabulation on the following page shows the estimated distribution of funds for the fiscal year 1946, under the estimate of \$10,000,000 as provided in the Budget. The complex nature of the war food situation and inability to foresee all contingencies that may arise, may make it necessary, as has been the case in past years, to effect adjustments in funds as the year progresses between the agencies and functions indicated.

More detailed explanations of the separate changes for 1946, as well as descriptions of the work performed with these funds are included in the notes covering the agencies to which allotments or transfers are made.

SALARIES AND EXPENSES, WAR FOOD ADMINISTRATION

	1944	Estimate		Increase or Decrease
		1945	1946	
Office of Distribution:				
Food requirements and allocations ³	\$1,664,335	\$1,996,840	\$650,000	-\$1,346,840
Food order administration ¹	7,060,077	7,541,000	3,500,000	-4,041,000
Food processing materials and facilities ⁴	256,909	295,800	- -	-295,800
Civilian food requirements ⁵	441,788	673,000	300,000	-373,000
Nutrition program ⁶	319,653	522,000	50,000	-472,000
Total	9,742,762	11,028,640	4,500,000	-6,528,640
Agricultural Adjustment Agency:				
Service to farmers in procurement of equipment and supplies	- -	- -	2,250,000	+2,250,000
Feed transportation and distribution	942,015	942,015	500,000	-442,015
Rationing, allocation of equipment, etc.	4,949,747	5,079,465	1,207,000	-3,872,465
Transportation (tires, off-highway gas, etc.)	2,932,042	2,932,042	- -	-2,932,042
Other local war food services	400,870	91,500	- -	91,500
Total	9,224,674	9,045,022	3,957,000	*-5,088,022
Extension Service:				
Payments to States	2,000,000	4,000,000	- -	-4,000,000
Federal Extension Service	33,476	62,790	- -	-62,790
Total	2,033,476	4,062,790	- -	-4,062,790
Office of Materials and Facilities (materials, supplies, machinery and equipment) ⁸	1,051,060	921,210	500,000	-421,210
Office of Production (feed management and production goals) ³	205,731	281,878	200,000	-81,878
Office of Labor:				
Food industry labor	22,743	43,965	20,000	-23,965
Wage stabilization	135,151	353,877	- -	-353,877
Total	157,894	397,842	20,000	-377,842
Office of War Food Administrator ²	266,405	225,234	269,000	+43,766
Office of the Secretary:				
Budget and Finance	45,746	41,943	26,650	-15,293
Personnel	38,863	54,120	36,600	-17,520
Plant and Operations	34,047	9,970	6,750	-3,220
Total	118,656	106,033	70,000	-36,033
Office of Solicitor	159,717	190,215	100,000	-90,215
Office of Information:				
Salaries and expenses	205,560	224,783	150,000	-74,783
Printing and binding	30,000	85,000	25,000	-60,000
Total	235,560	309,783	175,000	-134,783
Bureau of Agricultural Economics:				
Special economic problems	- -	38,000	30,000	-8,000
Program surveys	86,000	75,000	30,000	-45,000
Crop and livestock estimates	144,000	149,000	149,000	- -
Total	230,000	262,000	209,000	-53,000
Unallotted reserve for emergencies	1,039,680	2,015,546	- -	-2,015,546
Total, salaries and expenses, WFA	24,465,615	28,846,193	10,000,000	-18,846,193
Overtime	1,734,385	1,853,807	- -	-1,853,807
Total	26,200,000	30,700,000	10,000,000	-20,700,000

* Shown under schedules for (1) National and State and (2) County Association expenses.

CHANGES IN LANGUAGE

The estimates include proposed changes in language as follows (new language underscored, deleted matter enclosed with brackets):

Salaries and expenses: For expenses necessary to enable the War Food Administration to perform its functions, including those prescribed by Executive Orders 9280, 9310, 9322, 9328, and 9334, independently or in cooperation (by transfer of funds or otherwise) with public and private agencies and individuals, other personal services in the District of Columbia and elsewhere [in accordance with the provisions of law applicable to the appointment and compensation of persons employed by the Agricultural Adjustment Agency], including not to exceed [~~\$50,000~~] \$25,000 for [the temporary] employment [of persons or organizations by contract or otherwise without regard to the Classification Act of 1923, as amended] pursuant to the second sentence of section 706 (a) of the Act of September 21, 1944 (Public Law 425); actual transportation and other necessary expenses, and not to exceed \$10 per diem in lieu of subsistence, of persons serving while away from their permanent homes in an advisory capacity to or employed by the War Food Administration, without other compensation from the United States, except that such expenditures shall not exceed [~~\$200,000~~] upon authorization or approval of the War Food Administrator, travel expenses to and from their homes or regular places of business in accordance with the Standardized Government Travel Regulations not to exceed \$20,000 including travel in privately owned automobiles, of persons employed intermittently away from their homes or regular places of business as consultants and receiving compensation on a per diem when actually employed basis] \$115,000; printing and binding; the purchase of lawbooks, books of reference, periodicals, and not to exceed [~~\$800~~] \$700 for newspapers; and the purchase of one, operation, and maintenance [(including two in the District of Columbia)] of two passenger-carrying vehicles in the District of Columbia; [~~\$30,700,000~~] \$10,000,000: Provided, [That the applicable appropriations available to the War Food Administration, current at the time services are rendered or payment therefor is received, may be reimbursed by nongovernmental agencies or foreign governments (by advance credits or reimbursements) for the actual or estimated costs, as determined by the War Food Administration, incident to procuring agricultural commodities for such nongovernmental agencies or foreign governments: Provided further,] That none of the funds herein appropriated shall be used for the promulgation or execution of orders under which assessments are made against producers or handlers of agricultural products, excepting walnuts, for administration of such orders: Provided further, That no part of this appropriation shall be used for agricultural wage stabilization with respect to any commodity unless a majority of the producers of such commodity within the area affected have requested the intervention of the Administrator of the War Food Administration.

In view of the over-all reduction in funds, the proposed appropriation language for 1946 reduces the dollar limitations prescribed for the following special services: (1) Temporary employment of persons or organizations by contract or otherwise; (2) payment of travel and \$10 per diem of persons serving while away from their permanent homes in an advisory capacity or employed by the War Food Administration without other compensation from the United States; and (3) purchase of newspapers. The passenger-carrying vehicle limitation is revised to limit purchases to one, and operation to two, vehicles in the District of Columbia.

Provision for payment of travel expenses from their homes or places of business of consultants paid on a per diem when actually employed basis is deleted since similar authority for the Government as a whole is proposed in Section 201 (g) of the Independent Offices General Provisions of the Budget.

The following changes result from the enactment of the Department of Agriculture Organic Act of 1944, approved September 21, 1944 (Public Law 425): (1) Reference to employment in accordance with provisions of law applicable to the Agricultural Adjustment Agency is deleted since that authority is contained in Section 706 (a) of the Organic Act; (2) provision for temporary employment by contract or otherwise is revised to incorporate specific reference to the second sentence of Section 706 (a) of the Organic Act, which authorizes such employment; (3) provision for reimbursement by nongovernmental agencies or foreign governments for costs of commodities purchased for them is deleted, since such reimbursement is authorized by Section 402 of the Organic Act.

OFFICE OF THE WAR FOOD ADMINISTRATOR
(Allotment from "Salaries and expenses,
War Food Administration")

1945 allotment.....	\$250,000
Budget estimate, 1946.....	<u>269,000</u>
Change for 1946:	
Overtime decrease.....	-24,766
Increase.....	<u>+43,766</u> <u>+ 19,000</u> (1)

INCREASE

The net increase of \$19,000 for 1946 consists of a decrease of \$24,766 for overtime, and

- (1) An increase of \$43,766 to provide for the same staff in 1946 as estimated at the close of the fiscal year 1945, principally in the recently established Office of Surplus Property and Reconversion. The Director of Surplus Property and Reconversion supervises and coordinates the functions and responsibilities of the War Food Administration under the Surplus Property Act of 1944 (Public Law 457, 78th Congress), the War Mobilization and Reconversion Act of 1944 (Public Law 458, 78th Congress) and the Contract Settlement Act of 1944 (Public Law 395, 78th Congress).

WORK UNDER THIS ALLOTMENT

This allotment finances the immediate Office of the War Food Administrator, assistant administrators, immediate staff advisors and assistants and their secretarial and clerical help. Provision is included for (a) a Director of Price to supervise all functions of the Administration relating to approval of maximum prices to be fixed for agricultural commodities or products; relating to price support programs in connection with particular commodities; and relating to price stabilization operations, (b) a Director of Surplus Property and Reconversion, whose duties are outlined above, (c) a Director of Transportation to coordinate the transportation work of the various agencies of the War Food Administration, formulate and supervise the execution of general transportation policies, and direct Administration activities in connection with the movement of farming and food processing materials or facilities within, into and out of the country, (d) a Director of Water Utilization to supervise and coordinate the functions and responsibilities of the agencies of the Administration with respect to all phases of water development, use and disposal, and (e) the Chairman of the National War Board.

No attempt is made under this allotment to provide detailed budgetary, personnel and general operations services for the units involved, responsibility for these functions having been assigned to the appropriate established organizations of the Office of the Secretary.

PASSENGER-CARRYING VEHICLES

Two passenger-carrying vehicles are operated under the allotment to the Office of the War Food Administrator and are used for local transportation of officials of the War Food Administration in the performance of their official duties. The Budget authorizes the replacement of one of these vehicles in 1946, should that become necessary, at a gross cost of \$1500 with an estimated trade-in allowance of \$300, in accordance with uniform budget policy as to amounts for medium-weight cars.

PENALTY MAIL

Section 2, Public Law 364, 78th Congress
(Allotment to Office of War Food Administrator)

	<u>Category 1</u>	<u>Category 2</u>	<u>Total</u>
1945	- -	\$1,460	\$1,460
1946	- -	1,460	1,460
Change	- -	- -	- -

Category 2 consists of replies to letters addressed to the Administrator and his immediate staff from the public, including members of Congress, individual farmers, associations of farmers, State and local farm officials and organizations, and many other individuals interested in war food programs. It also includes correspondence material and enclosures sent from the Administrator's office to individuals and organizations affected by war food programs.



OFFICE OF PRODUCTION

(a) Allotment from "Salaries and expenses,
War Food Administration"

1945 allotment.....	\$314,000
Budget estimate, 1946.....	<u>200,000</u>
Change for 1946:	
Overtime decrease.....	-32,122
Other decrease.....	<u>-81,878</u>
	<u>-114,000</u>

PROJECT STATEMENT

Project	1944	1945 (estimated)	1946 (estimated)	Increase or decrease
1. Feed management.....	\$53,632	\$148,161	\$95,600	-\$52,561 (1)
2. Production goals.....	86,983	115,629	104,400	- 11,229 (2)
3. Conservation programs	61,789	18,088	- -	- 18,088 (3)
4. Overtime costs.....	22,269	32,122	- -	- 32,122
Total available.....	<u>224,673</u>	<u>314,000</u>	<u>200,000</u>	<u>-114,000</u>
Estimated savings.....	<u>3,327</u>	- -	- -	- -
Total estimate.....	<u>228,000</u>	<u>314,000</u>	<u>200,000</u>	<u>-114,000</u>

INCREASES OR DECREASES

The decrease of \$114,000 in this item for 1946 consists of the \$32,122 decrease for overtime, and the following:

- (1) A decrease of \$52,561 in the feed management project. Possible improvements in the livestock feed supply situation are expected to permit some reduction in the intensity of control measures necessary to secure effective distribution and utilization of feed in order to maintain a balance between livestock production and available feed supplies.
- (2) A decrease of \$11,229 in the production goals project. Past experience gained in the coordination and development of production goals will enable this essential activity to be carried on at a slightly reduced rate of expenditure in the fiscal year 1946.
- (3) A decrease of \$18,088 due to the elimination of the Conservation Programs Branch. The Conservation Programs Branch was eliminated as an activity of the Office of Production as of September 1, 1944. The cost of the Conservation Programs Branch for the first two months of the fiscal year 1945 was \$18,088 and that amount becomes a non-recurring item for 1946.

WORK UNDER THIS ALLOTMENT

The work under this allotment is concerned with the development and coordination of national and State agricultural production goals; the evaluation of production programs and recommendation of methods for augmenting or adjusting production to meet requirements; the formulation and administration of programs to secure effective utilization of livestock feed and to maintain proper balance between livestock production and available feed supplies; and the review and making of related recommendations with respect to support prices, support programs, and proposed maximum price regulations. Representation before the Requirements and Allocations Committee is also furnished with respect to food used for feed, seed, fertilizer, and other production purposes.

Of these various activities, the primary one is the work of developing and coordinating production goals--the pattern for United States agricultural production. Considerations which must be analyzed and correctly weighed in establishing the goals include: requirements for agricultural products, both at home and abroad and under changing conditions; capacity of the land to produce under present and probable future situations as to labor supply, machinery, fertilizer and other production facilities; marketing factors such as transportation, storage, processing and containers; prices which are adequate to bring forth the needed production; and the interrelationship of competing crops.

In developing goals, it is necessary to consider the related work of all Department and War Food Administration agencies interested in production. Also, it is necessary to draw upon specific information of the Bureau of Agricultural Economics, the results of production adjustment studies developed by BAE in cooperation with the various Land Grant colleges, the requirements information developed by the Requirements and Allocations Control of the Office of Distribution, and current reports on production and marketing factors.

Feed Management

The chief functions under this project are:

1. Development of National and State production goals for livestock and livestock products.
2. Development and administration of programs and control measures to secure effective distribution and utilization of feed, maintaining a balance between livestock production and available feed supplies.
3. Recommendation of program action, as related to livestock production and feed supplies, with regard to price support and maximum prices; requirements for production equipment, and other factors affecting production goals.

At the time this activity was begun, a serious maldistribution of feed supplies had been developing for more than a year. Livestock numbers had increased beyond the level which could be supplied from current

feed production, reserves had been reduced to minimum levels, and there was a diversion of feed supplies from their normal channels of distribution.

War Food Order No. 9 was issued to control the distribution and use of protein meals in livestock feed. Approximately 7,000 mixed feed manufacturers who are using protein meals come under the provisions of the Order, which involves the establishment of individual quotas on the basis of average use in 1942 and 1943, certain set-aside provisions for a percentage of oilseed meal production for distribution at the direction of the War Food Administration, reports on current use of meal, and provision for appeals from the limitations of the Order in "hardship" cases. Adjustments have been made in the control program to meet drought and other changing situations. State feed advisory committees were established and are functioning to coordinate the efforts of processors, Government and State field agencies, and the users of meal. The administration of the Order has contributed largely toward directing feed concentrate supplies in accordance with the needs to reach livestock and poultry goals. It was found possible in November 1944 to declare inoperative, until further notice, the provisions of War Food Order No. 9 relating to manufacturers' quotas and inventory. The set-aside and distribution provisions were continued in effect.

Another special assignment is the review of all material requirements and priority applications for the feed manufacturing industry, on reference from the War Food Administration Office of Materials and Facilities. A chairman is furnished for the War Food Administration Feed Allocation Committee, which controls distribution of Government-owned stocks of feed grains.

Successful expansion to meet emergency war needs has resulted in an all-time record number of livestock on farms in 1944. Livestock and poultry production schedules or "goals" for the periods ahead must be planned with consideration for both the available feed supplies and the requirements for livestock products.

Production Goals

The chief functions under this project are:

1. Development of National and State production goals for food crops and for feed and other agricultural crops.
2. Review of the current progress of all production programs, and initiation of adjustments or modifications necessary to achieve the production goals.
3. Making of recommendations to the War Food Administration, as related to crop production, with regard to support price programs and maximum price regulations, farm machinery and other production and marketing facilities, and other factors affecting agricultural production under the goals.

In order to assist in carrying out the development of National and State goals for crop production, several commodity committees and an over-all Goals Review Committee have been established to include representatives of the production agencies of the War Food Administration and the Department. These committees assure full participation by all agencies in the development of crop production patterns.

The procedure followed in developing crop goals is as follows: The appropriate goal committee gathers all possible information on the requirements and production factors which must be considered. This information is summarized and analyzed, and becomes the basis for a report by the goal committee. The individual committee report then goes before the over-all Goals Review Committee for acceptance or amendment. After acceptance by the Review Committee, the report is recommended to the War Food Administrator for final action and announcement.

Establishment of goals is not the final step. A current review of progress in the attainment of the goals is maintained, in order that programs may be developed, prices adjusted, production or marketing facilities provided to achieve the production pattern established. Rapidly changing military and general world conditions add to the problems of production goal determination.

An example of the type of flexible program activity which is carried out even after goals are originally established: A 1944 production goal of 14 million acres was established as the national goal for soybeans. This was done after taking into consideration the acreage which would be devoted to such competing crops as corn, oats and hay crops. A price support was established for soybeans to encourage their production.

Reports of growers' intention to plant received in early spring indicated that we would fall far short of meeting this goal. Accordingly, a plan was developed for the achievement of the soybean goal. The following steps were taken: (1) The price support was advanced 10 cents per bushel, (2) an intensive radio and press campaign was carried on in the heavy producing states, (3) assistance was given in making soybean seed available to growers at reasonable prices, and (4) producers of soybeans were given preference in securing soybean meal for livestock feeding. As a result of these activities, which attempted to adjust programs in order to improve the opportunity of meeting the goals, the plantings of soybeans were greatly increased.

Conservation Programs Branch

This Branch, as already mentioned, was abolished as of September 1, 1944. Before that date, the Conservation Programs Branch worked closely with the research and action agencies in making a summary of conservation research data and interpretation of these data into a usable form for use by action agencies to determine primarily the progress in achieving conservation, and the impacts of these improved

conservation practices on agricultural production during wartime. Individual reports were made on summer fallowing, crop residue management, and contour cultivation. A detailed study was undertaken in cooperation with the States to determine the limestone needs on a county basis. Fertilizer requirements were estimated for future production programs, by crops and areas. An analysis was made of the effect of lime and fertilizer on crop yields in the individual States. Conservation practices were classified according to their effectiveness on crop production and in achieving conservation.

- (b) Allotment from "Conservation and Use of Agricultural Land Resources" (\$15,750, fiscal year 1944)
- (c) Allotment from "Salaries and expenses, Soil Conservation Service" (\$16,600, fiscal year 1944)
- (d) Allotment from "Water Conservation and Utilization Projects" (\$4,300, fiscal year 1944)
- (e) Allotment from "Water Facilities, Arid and Semiarid Areas" (\$4,300, fiscal year 1944)

These four Budget schedules cover allotments made in the fiscal year 1944, to finance, in part, the Conservation Programs Branch of the Office of Production in supervising and coordinating the soil and water conservation and utilization programs of the War Food Administration. No similar allotments were made in 1945.

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PENALTY MAIL
Section 2, Public Law 364, 78th Congress
(Allotment to Office of Production)

	<u>Category 1</u>	<u>Category 2</u>	<u>Total</u>
1945	- -	\$1,775	\$1,775
1946	- -	1,775	1,775
Change	- -	- -	- -

Category 2 consists of material to be sent to the feed manufacturing industry of which there are over 8,000 concerns, on such matters as appeals from War Food Order No. 9 (Feed Order) in emergency drought areas, advice of availability for distribution of molasses and hydrol, changes in the feed management program, and reports required in accordance with the feed order, which is designed to secure equitable distribution of available protein meals in livestock feeds. It also consists of replies to individual farmers, associations of farmers, State and local farm officials and organizations and many other individuals interested in the production and feed management programs of the War Food Administration as well as correspondence material and enclosures sent to individuals and organizations affected by such war food programs.

OFFICE OF MATERIALS AND FACILITIES
(Allotment from "Salaries and expenses,
War Food Administration")

1945 Allotment		\$1,039,600
Budget estimate, 1946		<u>500,000</u>
Change for 1946:		
Overtime decrease	- 118,390	
Other decrease	<u>- 421,210</u>	<u>- 539,600 (1)</u>

DECREASE

- (1) The decrease of \$539,600 for 1946 consists of a decrease of \$118,390 for overtime, and a decrease of \$421,210, based on possible improvement in the materials and facilities situation and a resulting expectation that a number of existing controls may be relaxed. The workload of the Office of Materials and Facilities depends largely on the number and intensity of War Production Board controls. As a result, the exact level of operations in the Office of Materials and Facilities is dependent upon the increase or decrease in controls put into effect by the War Production Board.

Changing conditions make it impossible at this time to forecast accurately the responsibilities and activities of the Office of Materials and Facilities for the fiscal year 1946. Recently, labor shortages, for example, have increased the problems of the Office in securing the machinery, facilities and supplies necessary for the food program. Critical component parts--engines, bearings, malleables, etc.,--textiles, paper, sulfuric acid, and nitrogen are in tighter supply than twelve months ago. As further developments occur in WPB controls, the entire program may have to be reappraised to determine the needs at that time.

Certain priority work formerly handled by the War Food Administration in Washington has been decentralized to War Production Board field offices. The Office of Materials and Facilities is now giving considerable attention to supervising and reviewing the actions taken in these field offices to maintain a balanced program and to keep available food machinery from becoming depleted by coordinating regional activities. The War Food Administration, through the Office of Materials and Facilities, has the responsibility for establishing the policies to be followed by the WPB field organization in all matters relating to the food industries.

WORK UNDER THIS ALLOTMENT

Objective: To assure an adequate supply of farm and processing machinery, equipment, materials, and facilities to achieve the food production goals by means of:

1. Securing from the War Production Board adequate allotments of critical material and component parts sufficient to meet food program needs.
2. Satisfactory translation of these allotments into finished products in time to meet the food program requirements by careful scheduling

of production of agricultural and processing equipment and component parts.

3. Development of programs and methods of getting surplus war property into farming regions, in conjunction with other offices and agencies involved in surplus disposal work, to supplement the materials shortages.

The Problem and its Significance: Shortages of all materials, particularly critical component parts, textiles, paper, paperboard, sulfuric acid, nitrogen, and steel due to unparalleled wartime demands, and the unavailability of many products and materials formerly imported has made it necessary to control not only these, but all of our other resources. These controls are necessary so that the limited supplies will be effectively used in the furtherance of the total war effort by maintaining a balance between all the essential factors of American production.

It is the responsibility of the War Food Administration, and specifically, of the Office of Materials and Facilities to see that the minimum needs are supplied to the American farmer and to the processors and packers of food so that production goals and schedules will be met. The categories of resources involved include all phases of containers and packaging work, storage and transportation facilities, including fuel and rubber in connection therewith, chemicals, fertilizers, food processing machinery, structures and repairs, building materials, fencing, and farm machinery and supplies.

Problems involved include the specific necessities for meeting critical needs for replacements of food industry machinery and facilities, containers and packaging material and equipment, the processing and securing of chemicals and fertilizers, insecticides, fungicides; etc., necessary for food production, and the critical component parts program relative to the entire food and farm machinery programs. Throughout the war, the farmers and the food industries have been expending a good part of their capital equipment and machinery to postpone the day when new and replacement parts, new containers and other new elements would be the only alternative to complete breakdown. Replacement schedules on all of these items have been long over-extended and in more and more cases the only means for continued operation is new equipment, new containers, or fresh supplies in the areas concerned. Thus, the problem of the allocation of limited resources is a matter of acute importance and extreme care is taken to see that available supplies are assigned in such a way that essential operations may continue.

Plan of Work: In order to represent adequately the direct and indirect needs of the American farmer to the War Production Board, it is necessary to determine the quantitative amount of materials, facilities, machinery, equipment, transportation, packaging, chemicals and fertilizers, and other services needed. When these requirements are determined by the Office of Materials and Facilities, it is then necessary that it be fully and energetically represented to the proper authorities of the War Production Board and other governmental agencies. It is the responsibility of the Office to see that there are no interruptions to those supplies which are not required by military necessity.

The Director of Materials and Facilities serves as representative of the War Food Administration on the Requirements Committee of the War Production Board. The successful execution of this responsibility necessitates the complete and timely assembly of balanced programs and periodic accounting for allotted materials, equipment, and facilities, and requires the constant collaboration of the various War Food Administration operating units and the Office of Materials and Facilities. The Office is also represented on 33 committees of war agencies dealing with the allocation and use of scarce materials and the production of equipment and components.

Materials and facilities requirements rest primarily upon the determination of crop goals and food requirements. In accordance with schedules and procedures formulated by the Office of Materials and Facilities, the operating branches and agencies of the War Food Administration submit their programmed food and fiber requirements and goals together with their recommendations for materials and facilities. The Office of Materials and Facilities, in collaboration with operating agency personnel, the War Production Board, and industry advisors, develops final programs for recommendation to the WPR Requirements Committees and related war agencies.

Operating branches and agencies also recommend plans for the distribution of allotted materials and facilities, and the Office of Materials and Facilities implements these plans in line with War Production Board procedures.

Specifically the Office carries out the following functions:

1. Determines the need for equipment and controlled materials required to implement the production, processing, and storage objectives of the various branches and agencies of War Food Administration. In this determination it collaborates closely with the operating branches and agencies of War Food Administration, and appropriate WPR Industry Divisions and Committees and other war agencies.
2. Presents and defends the above needs before War Production Board Industry Divisions, Program Bureau, and Requirements Committee and obtains an over-all allotment of materials and equipment.
3. Allocates materials and equipment received from the War Production Board to the various programs of War Food Administration, and establishes and maintains over-all accounting controls on the distribution of such materials and equipment.
4. On the basis of these allocations and with the assistance of the various War Production Board Industry Divisions, schedules the production of food, feed, and fiber processing equipment, metal containers; farm machinery, and special machinery of the larger agricultural processing industries.
5. Processes construction applications and applications for the purchase of machinery in all fields relating to the production, processing, and storing of foods and other agricultural products.

6. Prepares recommendations to the War Food Administrator for necessity certificates granting tax amortization to food processors for projects which are necessary for the war food program.

7. Implements War Food Administration programs for procurement of farm production supplies by assisting disposal agencies in getting surplus war goods into farming areas, and by encouraging, in cooperation with the Armed Services, the development of alternative uses of surplus military equipment suitable for farm purposes.

8. Administers maintenance and repair order (CMP Reg. 5) for processors and industries falling under the jurisdiction of the War Food Administration.

Every three months, the Office of Materials and Facilities, along with all other claimant agencies, must submit and defend before the central Requirements Committee of the War Production Board the combined controlled material needs of its various programs under the following classifications of controlled material requirements: Construction, special machinery of designated industries, farm machinery, metal containers, fishing boats and diesel engines for fishing boats, machinery, packaging, chemicals and fertilizers. At the same time War Food Administration's controlled material requirements for maintenance and repair are reported to the Program Bureau of War Production Board and considered by them along with the similarly estimated requirements of other claimant agencies to determine what size pool of materials should be established for the industry of the Nation to draw on.

Examples of Progress and Current Programs: As claimant agency for materials, facilities, and equipment needed in the food program in 1944, the Office has submitted requirements to the War Production Board relating to farm and food processing machinery, containers, fertilizer, lumber, and other items having a value of more than 5.5 billion dollars. These requirements took approximately 1/15 of the total steel supply in 1944. Obtaining these requirements facilitated:

1. Manufacture of farm machinery and repair parts to handle record farm crops.

2. Increased crop production through a record volume of fertilizers and insecticides.

3. Expansion and replacement of food processing equipment to meet the greatly increased war demands for processed foods.

4. Production of containers and packaging materials to package the large production of foods.

5. Irrigation, drainage and other programs vital to food and fiber production and distribution.

6. WFA requirements for seventy different programs involving 3,800,000 tons of carbon steel for allotment to all the various programs within the Office.

These accomplishments by principal categories are illustrated as follows:

Containers and Packaging

The American farmer and food processor faced a shortage of all types of container materials including tinplate, paper, paperboard, specialty papers, textile bags and farm production textiles, crowns and closures, and other packaging materials in 1944.

During 1944 the Office of Materials and Facilities administered the food section of WPB Order M-81 and the programming and direction of nearly two million tons of tin cans for packing food for Military, Lend-Lease, and Civilian use. Over 1,800,000 yards of textiles, including burlaps and cotton, were programmed and made available to the bag industry and the farmers producing tobacco and vegetables, as well as food processors using textiles in the production of processed food. Based on market prices, the value of these containers and packaging materials is estimated at \$2,000,000,000 in 1944.

Increasing shortages of paper and paper products created a very difficult problem. Orders were issued by the War Production Board restricting the use of containerboard and paperboard, but through the cooperation of food industries in reusing containers and through securing the cooperation of the container industries, all food was moved to market without waste during 1944. Highlights of these activities involved emergency actions to move Lend-Lease food, directing the production of all slack cooperage to the dried milk industry during the flush season and taking extraordinary steps to package the huge pork production to the extent that there was no shut-down of slaughtering lines in the packing houses.

Priorities and Allocations

During the past year, the Office of Materials and Facilities processed approximately 43,750 individual applications under Orders P-115 and P-118 involving some \$65,625,000 of machinery and equipment, approximately 6,200 construction applications involving some \$132,393,355, approximately 19,000 individual applications for specific items of materials and equipment, involving an estimated \$95,000,000, approximately 110 applications allocating 19,000,000 board feet of lumber, approximately 1,200 CMP applications, allocating an estimated 4,000 tons of steel and proportionate quantities of copper and aluminum, made telegraphic recommendation to WPB regional and district offices on approximately 250 construction applications, involving an estimated \$5,000,000, and 185 applications for tax amortization privileges involving facilities valued at \$12,708,746.

Farm Machinery and Supplies

The requirements of farm machinery and supplies necessary to meet war food goals were established. Based on these requirements claims for steel and other materials were presented to the War Production Board resulting in the manufacture and distribution of new farm machinery

valued at \$432,000,000, repair parts valued at \$189,000,000, farm engines, garden tools, merchant trade products, copper for farm wiring and other farm supplies valued at \$229,000,000, lumber valued at \$790,000,000, and construction facilities valued at \$192,000,000.

Transportation and Storage

During the year 1944 the Office has secured for the American farmer 54,000 farm trucks for on-farm use; 45,194,000 barrels of gasoline for use in tractors, farm trucks, and for other on-farm uses; 1,801,000 tractor and implement tires for new farm machinery and for replacements on existing farm machinery; 9,500 tires to convert steel-wheeled tractors to rubber tires; and some 272,000 internal combustion engines of all types for various on-farm uses. The aggregate value of these supplies is approximately \$500,000,000.

A brooder coal order was established in conjunction with the Solid Fuels Administrator for War which provided ample anthracite coal to supply brooder coal requirements.

Representation was maintained on the necessary requirements committees and plans were formulated and completed by correlating the activities of County Farm Transportation Committees in programs with the Office of Defense Transportation, Office of Price Administration, and Solid Fuels Administrator for War.

Chemicals and Fertilizers

Requirements were determined and claims were established for a wide variety of materials used in the production, protection, and preservation of crops and processed foods. During the current crop season, fertilizer claims have been allowed for approximately 590,000 tons of nitrogen, 7,000,000 tons of superphosphate (basis 18%), and 712,000 tons of potash (basis K_2O). Claims have been established for 800 million pounds of insecticides, fungicides and accessory materials to protect over 44 million acres of crops, valued at $4\frac{1}{2}$ billion dollars.

Claims were also established for a wide variety of miscellaneous chemicals including animal medicinals, sanitation chemicals, food and feed supplements, by-product protein feed, weed killers, dry ice, and in related fields obtained approximately 20 million tons of liming materials during the year.

It is the responsibility of this Office to see that the American farmer is supplied with 12 million tons of fertilizer, 800 million pounds of insecticides and fungicides, 20 million tons of agricultural liming materials, and a wide range of other chemicals and related materials used in agriculture, including biologicals, fumigants, and legume inoculants. The aggregate value of the chemicals and fertilizers program was \$1,100,000,000.

Processing and Facilities

The Office of Materials and Facilities programmed machinery and equipment requirements for the major food, feed, and fiber processing industries. Materials allocated at approximately 50% of the level required to maintain existing machinery late in 1943. For example, carbon steel was being allocated at a rate of approximately 8,000 tons per quarter. In 1944 provision was made for the manufacture of essential machinery for expansion and replacement purposes far enough in advance of actual needs to meet all contingencies and prevent a breakdown in any segment of the processing industry. Consequently, the plants which fabricate this equipment increased the over-all production of processing machinery to approximately 138% of the 1943 level and are now receiving steel at a rate of approximately 20,000 tons per quarter. The aggregate value of this machinery was approximately 160 million dollars, including necessary repairs.

Service to farmers in procurement of equipment and supplies: Through cooperation with the Procurement Division of the U. S. Treasury Department, the Office of Materials and Facilities was able to develop a program for securing surplus trucks for agricultural use. This program has resulted in the sale of 18,000 trucks to farmers and others serving agriculture. For example, 55 trucks were moved into Southern Texas to save 4 million bushels of milo maize, 30 to Nueces County, Texas, to assist in the wheat harvest, 100 into Tennessee to transport limestone for soil conservation, 250 into North Carolina for moving tobacco and limestone, and 75 into Virginia and Georgia to save peach crops.

The auction method of sale has been sponsored by the War Food Administration as a desirable method of disposing of surplus used and odd lots of new items which cannot be readily and effectively sold through regular trade channels. Final reports received from 26 such experimental auctions show 15,000 individual purchases out of an attendance of 62,000 with receipts of \$124,000 for used goods originally costing only \$235,000.

The surplus disposal program operates through the field organization of the Agricultural Adjustment Agency whose state and county officials act as liaison between the disposal agency and the local auction organization. There are over 1,500 established rural auction sales organizations in the country which hold sales at regular intervals. The War Food Administration intends to continue to utilize these outlets fully during 1945 and 1946, and will expand its activity in proportion to the increase of surplus material available.

PENALTY MAIL

Section 2, Public Law 364, 78th Congress
(Allotment to Office of Materials and Facilities)

	<u>Category 1</u>	<u>Category 2</u>	<u>Total</u>
1945	- -	\$1,332	\$1,332
1946	- -	1,332	1,332
Change	- -	- -	- -

Category 2 consists of notices to farmers, correspondence, forms and regulations, orders, and other operational and administrative mailings in connection with assuring farmers an adequate supply of critical materials, facilities, equipment and supplies.

OFFICE OF LABOR

(a) Allotment from "Salaries and Expenses,
War Food Administration"

1945 allotment	\$450,000
Budget estimate, 1946	<u>20,000</u>
Change for 1946:	
Overtime decrease	-52,158
Other decrease	<u>-377,842</u>
	<u>-430,000</u>

PROJECT STATEMENT

Project	1944	1945 :(estimated):	1946 :(estimated):	Increase or decrease
1. Wage stabilization program	\$83,793:	\$353,877:	- -:	-\$353,877 (1)
2. Food industry labor program	21,114:	43,965:	\$20,000:	-23,965 (2)
3. Overtime costs	8,106:	52,158:	- -:	-52,158
Unobligated balance	52,987:	- -:	- -:	- -
Total	166,000:	450,000:	20,000:	-430,000

DECREASES

The decrease of \$430,000 in this item for 1946 consists of \$52,158 for overtime, and:

- (1) A decrease of \$353,877 in funds available for the wage stabilization program. Since the Emergency Price Control Act of 1942, as amended by the Stabilization Act of 1944 expires on June 30, 1945, and has not as yet been extended the Budget makes no provision of funds for for the wage stabilization program in 1946. At such time as this legislation may be further extended, consideration will be given to the submission of an estimate to continue this important phase of the over-all wage stabilization program. The work involves the control of labor costs in relation to price control as a means of avoiding inflation, and the prevention of "wage spiraling" through competition between farmers for labor which leads to "pirating" of labor, high labor turn-over, and loss of working time. The purpose of the wage stabiliation program is not to establish minimum wages for agricultural workers but rather to establish maximum wages where conditions require.
- (2) A decrease of \$23,965 in the food industry labor program, necessitating a decrease in the technical staff of the Food Industries Division, and eliminating technical supervision of field work in connection with the Production Urgency and Manpower Priorities Committees.

WORK UNDER THIS ALLOTMENT

Wage Stabilization Program

Legislative history of the item. Public Law 729, 77th Congress, ("an Act to amend the Emergency Price Control Act of 1942 to aid in preventing inflation and for other purposes" approved October 2, 1942) authorizes and directs the President "on or before November 1, 1942, to issue a general order stabilizing prices, wages and salaries, affecting the price of living." This Act was extended to June 30, 1945 by the Stabilization Act of 1944, Public Law 383, 78th Congress, approved June 30, 1944.

By Executive Order 9322 of March 26, 1943, the authority "to determine whether any salary or wage payments to agricultural labor are made in contravention of the Act or any rulings, orders or regulations promulgated thereunder", which had been previously delegated to the Secretary of Agriculture by the Director of Economic Stabilization, was transferred to the War Food Administrator.

Within the War Food Administration, responsibility for this program has been assigned to the Office of Labor and is being financed from the appropriation "Salaries and Expenses, War Food Administration." \$400,000 (including overtime) is available for the purpose in the fiscal year 1945.

Objective:

- (a) To control agricultural labor costs in relation to price control as a means of avoiding inflation in accordance with Executive Orders issued pursuant to Public Law 729 as amended by Public Law 383;
- (b) To control agricultural wage rates in relation to industrial wage rates to prevent undesirable shifting of manpower; and
- (c) To prevent "wage spiralling" through competition between farmers for labor, leading to "pirating" of labor, high labor turnover, and loss of working time.

The Problem and its Significance: Determinations, administration and enforcement of an agricultural wage stabilization program in line with the above objectives. The operation of the program involves a delicate balance in the field of agricultural wage rates which will avoid inflation, yet facilitate the obtaining of sufficient labor at rates not in excess of the growers' capacity to pay.

Increasing demands made upon farmers for total food-for-war production, losses of manpower to armed forces and industry, coupled with demands for increased wages on the part of farm workers is developing an ever tightening wage-price-production relationship in the production and distribution of agricultural commodities. Price ceilings have been established on many basic commodities, and wages, as an element in the cost of production, if unstabilized, result in wage demands in excess of growers' capacity to pay. In addition, wage rates in agricultural operations not covered by ceiling prices may be

sufficiently high to outbid the labor for the basic covered commodities. These economic truisms inevitably result in pressure to raise ceiling prices on the grounds of increased wages. Inflation becomes inevitable if labor is not available, demand continues, and costs of production are not stabilized. By delegation of authority the wage stabilization program is charged with the responsibility of determining the need for agricultural wage stabilization and upon such determination to administer and enforce the regulations issued pursuant thereto. Wage determinations are specific with respect to areas, crops, and classes of employers and general with respect to all agricultural labor.

Activities: On July 1, 1943, employment on farms in the United States was at a record low and wage rates reached a new high. On that date, farm wage rates averaged 27¹/₄ percent of the 1910-14 base period, compared with 202 percent for July 1, 1942, a gain of 72 points or 36 percent. Farm wage rates continued to rise during the year, reaching the highest rate on record on July 1, 1944, when they averaged 328 percent of the 1910-14 base, a gain of 54 points or 19 percent over the previous year. This trend continued during 1944, when the wage rate index on January 1, 1945, was 324 percent of the 1910-14 average or 49 points higher than on January 1, 1944. Competition among farmers and between agriculture and industry for the diminishing labor supply has been pushing farm wage rates to ever-higher levels since the beginning of World War II. Against this background of rising farm wages, and upon the request of employees of agricultural labor, wage stabilization activities were carried out for crops, areas, or classes of agricultural employees where critical situations in the production, cultivation, or harvesting of food threatened to develop.

During the period from July 1, 1943 to December 31, 1944, 44 specific wage ceiling orders were issued in 7 states - California, Florida, Delaware, Idaho, Oregon, Washington and Arizona - involving 332 counties, and affecting the wages of approximately 408,455 agricultural workers. Crops or operations covered by wage ceilings included: oranges, peas, cherries, lettuce, peaches, alfalfa hay, apricots, asparagus, potatoes, citrus fruits, tomatoes, grapes for sun-dried raisins, cotton, dairying, apples, sugar beets, pruning, hops, berries, pears and lemons.

During the same period, about 400 requests for wage and salary adjustments were received from employers in 40 states. The wages or salaries of approximately 21,000 agricultural workers were involved in these adjustments.

To assist the War Food Administrator and the Director of Labor in the agricultural wage stabilization program, State War Food Administration Wage Boards were appointed in the following 10 states: California, Arizona, Colorado, Delaware, Florida, Idaho, Illinois, Maryland, Michigan, New Jersey, Oregon, Texas and Washington. In addition, recommendations were received during the period by the War Food Administrator for the appointment of wage board members from the following states: Connecticut, Indiana, Massachusetts, North Dakota, Pennsylvania and Utah.

Members of State War Food Administration Wage Boards are appointed by the Director of Labor under authority delegated to him by the Administrator. The personnel of such boards is made up of persons not directly associated with the agricultural industry as such. Nominations are solicited from State Directors of Extension and the recommended appointees are generally persons employed by the Federal Government or by a state agricultural institution. The wage board memberships range in numbers from 5 to 8 principal members with alternates for most members. An effort is made to have a majority of federal employees on the boards. All members serve without compensation.

These State Wage Boards are appointed in order to exercise functions relating to wage stabilization delegated to them by the War Food Administrator through the Director of Labor. Their principal function is to hold public meetings upon request of interested growers in order to recommend to the Administrator areas, crops, or classes of employers for which specific wage ceilings are to be established. During the period July 1, 1943 to December 31, 1944, 50 hearings were held.

In order that a specific wage ceiling once established may operate successfully, it is generally necessary for members of the State Boards to work continually with growers and producers until the crop in question is harvested or the operation completed.

Wage board employees have the responsibility of checking on compliance. An important factor in compliance is the prompt adjustment of ceiling rates for so-called "hardship" cases, such as an unusually weedy field, extremely high fruit trees, or a low yield. Each adjustment is acted upon individually and requires the approval of the State Wage Board. During the period from July 1, 1943, to December 31, 1944, State Wage Boards acted on approximately 1,500 requests for relief on hardship cases.

The Washington staff has assisted the Administrator and Director of Labor to formulate policies and procedures in relation to general regulations, specific ceilings, wage and salary adjustments, and State Wage Boards. In addition, various members of the Washington staff worked in the field during the past year helping various State Boards to organize, and assisting in an advisory capacity with the operation of specific wage regulations.

Activities carried on during the fiscal year 1944 were continued and enlarged during the first six months of the 1945 fiscal year, as farm wage rates continued to rise and harvesting operations were completed for the calendar year 1944.

The State Wage Boards administering the program have informed the Director of Labor that the wage regulations have stabilized labor and that incalculable man hours have been saved which otherwise would have been spent by workers in shifting from farm to farm looking for the highest wage rates. This has been an important factor in holding farm wage rates to reasonable levels which, in turn, has

minimized inflationary tendencies. Although farmers were at first apprehensive of the wage ceiling procedure, they have petitioned the War Food Administrator to continue and strengthen the program in 1945.

Food Industry Labor

Objective: To provide analysis, planning, and related services for food industries labor through:

- (a) Maintenance of working relationships for two-way interchange of information on food industry labor problems with the
 - (1) War Manpower Commission and its constituent agencies: the U. S. Employment Service, and the Bureau of Program Planning and Manpower Utilization;
 - (2) Department of Labor and its constituent agencies: the Wage Hour and Public Contracts Division, the U. S. Conciliation Service, the Children's Bureau, the Women's Bureau, the Bureaus of Labor Standards and Labor Statistics;
 - (3) National War Labor Board;
 - (4) National Labor Relations Board;
 - (5) War Department, Navy Department, War Production Board, Selective Service, and other government agencies having labor functions.
- (b) Maintenance of liaison relationships on labor problems with the food industries and with the several operating agencies in the War Food Administration.

The Problem and its Significance: High levels of production of food stuffs result in the need for greater processing facilities and manpower, and the efficient handling of food supplies is directly dependent thereon.

The rigid requirements of the armed forces is seriously threatening the ability of food processors to convert foodstuffs properly into processed form and to transport, store and distribute such items properly. In all cases the available manpower is subject to the usual unfavorable factors; namely, turnover, absenteeism, undesirable working conditions, housing conditions, and lack of necessary skill.

The above conditions require the dissemination of information relative to policies and programs which will reduce to a minimum the inefficient handling of foodstuffs. This is particularly necessary in the case of the highly perishable commodities.

Such information must be made available to the industries and agencies whose programs directly affect manpower. Surveys of the industries must be made to make certain that full information on labor in the industries is available to the War Food Administration staff.

Activities: The Food Industries Division has directed the field program relative to Production Urgency and Manpower Priorities Committees, and has thus functioned directly in the control of production and of labor referrals.

The representation of the War Food Administration by the Food Industries Division on the Essential Activities Committee of the War Manpower Commission, on the Inter-Agency Committee on Occupational Deferments, and the formal agreement with the War Labor Board for certification of wage applications of a "rare and unusual" nature have been functions which contributed directly to assuring full consideration being given to the labor problems of the food industries.

The Food Industries Division has also served in a liaison capacity for industry, trade associations, and individual operators, as well as other Government agencies, on matters affecting labor. In addition, it has surveyed the key industries in the food processing field for the purpose of determining labor requirements. Meat packing, dairy and poultry, and fruit and vegetable industries were all carefully surveyed, in order that the labor requirements might be anticipated and steps taken to alleviate any labor shortages which might develop.

- (b) Community Facilities, Defense Public Works, Office of Administrator, Federal Works Agency (Transfer to Agriculture) (War Food Administration, Office of Labor)

This budget schedule covers estimated obligations in 1945 under a transfer of \$32,531 for part of the cost of maintenance and operation of recreational and child-care services for migrant agricultural workers in Florida, North Carolina, Virginia, and Tennessee.

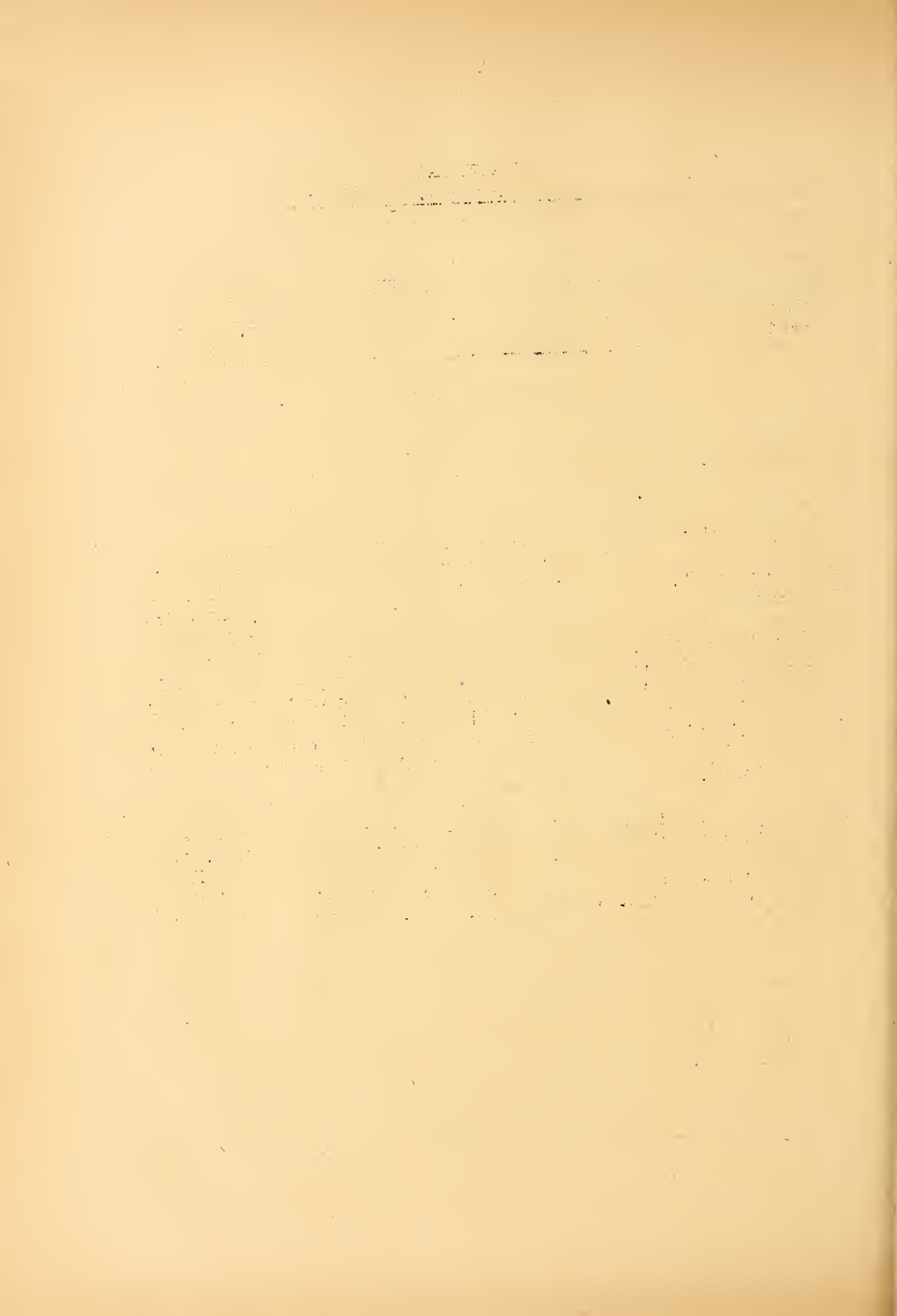
PENALTY MAIL
Section 2, Public Law 364, 78th Congress
(Allotment to Office of Labor)

	<u>Category 1</u>	<u>Category 2</u>	<u>Total</u>
1945	\$49	\$5,405	\$5,454
1946	- -	5,405	5,405
Change	<u>-49</u>	<u>- -</u>	<u>-49</u>

Category 1 consists of general and specific regulations and determinations and other informative material necessary in the wage stabilization program.

Category 2 consists of correspondence with foreign governments, the State Department, State Extension Service and field offices relative to the recruitment, transportation, placement, shelter, feeding, and medical care of foreign and domestic agricultural workers. Also included are instructions for the handling of the accounting for workers by the field office employees. In connection with wage stabilization, the estimate includes correspondence with individual producers and growers' associations in determining whether a majority has requested specific crop wage ceilings. Also involved are individual applications for wage increases, correspondence relative to compliance with wage ceiling orders, and applications for adjustment of wage ceilings.

The decrease of \$49 is due to the fact that no Budget estimate is being submitted for the wage stabilization program at this time, since the basic legislation under which the work is coordinated (the Emergency Price Control Act of 1942, as amended by the Stabilization Extension Act of 1944) expires June 30, 1945, and has not as yet been extended.



COMMODITY CREDIT CORPORATION

(a) Salaries and Administrative Expenses

- (a) The amounts expended under this heading are made available from the capital funds of Commodity Credit Corporation.

Appropriation Act, 1945	\$7,208,526
Budget estimate, 1946	<u>6,565,000</u>
Change for 1946:	
Overtime decrease -668,635	
Increase +25,109	<u>-643,526</u>

INCREASES OR DECREASES

The decrease of \$643,526 for 1946 consists of the \$668,635 decrease for overtime, and the following:

- (1) A decrease of \$355 in the estimated amount to be transferred to the Office of the Treasurer of the United States.
- (2) A decrease of \$856 for the purpose of rounding off the total estimate.
- (3) An increase of \$26,320 resulting from an inadvertence in not deducting the full amount of 1945 overtime costs in arriving at the 1946 estimates. It was intended that the 1946 Budget would provide the same basic amount of total funds for salaries and administrative expenses as is available in the current fiscal year.

CHANGES OF LANGUAGE

The estimates include proposed changes in the language of this item as follows (new language underscored, deleted language enclosed in brackets):

* * * Provided further, That none of the fund made available by this paragraph shall be used for administrative expenses connected with the sale of Government-owned or Government-controlled stocks of farm commodities at less than parity price as defined by the Agricultural Adjustment Act of 1938 or the comparable price as provided by section 4 (a) of the Act of July 1, 1941, as amended (15 U.S.C. 713a-8); and the method that is now used for the purposes of Commodity Credit Corporation loans for determining the parity price or its equivalent for 7/8-inch middling cotton at the average location used in fixing the base loan rate for cotton shall also be used for determining the parity price for 7/8-inch middling

cotton at such average location for the purposes of this proviso: Provided further, That the foregoing shall not apply to the sale or other disposition of any agricultural commodity substantially deteriorated in quality (or in the case of perishable [fruits and vegetables] fruits, vegetables, and animal products if there is danger of deterioration or of accumulation of stocks) or sold for the purpose of feeding, or the extraction of peanut oil, or commodities disposed of for distribution for relief purposes in the United States, its Territories and possessions, or commodities disposed of for export pursuant to section 21(c) of the Surplus Property Act of 1944 (Public Law 457), or commodities sold to farmers for seed or for new or byproduct uses, or commodities sold for the purpose of establishing claims against persons who have committed fraud, misrepresentations, or other wrongful acts with respect to such commodities: Provided further, That no wheat or corn shall be sold for feed at a price less than the parity price of corn at the time such sale is made: Provided further, That in making regional adjustments in the sale price of corn or wheat [in] the minimum price need not be higher in any area than the United States average parity price of corn.

The first change would permit disposition at less than parity of perishable animal products (in addition to perishable fruits and vegetables provided for in the 1945 Appropriation Act) if there is danger of deterioration or accumulation of stocks. Under the current appropriation act, perishable products, other than fruits and vegetables, cannot be disposed of until they have "substantially deteriorated in quality." In the case of animal products, such as eggs, poultry, milk and butterfat, if such products have substantially deteriorated in quality, they become a total loss. If the waste of such foods through spoilage is to be prevented, it is essential to add perishable animal products to the other perishable commodities which can be disposed of to prevent spoilage.

The second change would permit the disposal of commodities for relief distribution at less than parity, and sales for export as authorized in the Surplus Property Act of 1944. In carrying out legislative commitments to support the prices of agricultural commodities at 90 percent of parity for two years after the war, it is probable that substantial quantities of agricultural commodities will be acquired by the Government. In order that these stocks can be utilized to promote the fullest domestic consumption of food and other farm commodities, it may be necessary, at times, to dispose of commodities to the Red Cross or other Federal, State or local governmental or nongovernmental agencies for distribution for relief purposes.

Authority to dispose of commodities for export at competitive world prices is contained in the Surplus Property Act of 1944, but the prohibition against the sale of commodities at less than parity or comparable prices in the appropriation language would prevent the use of Corporation funds for administrative expenses in connection with

the export of agricultural commodities at less than parity, unless a specific exemption for such purpose were included in the appropriation act. Therefore, the purpose of this change is to continue, in effect, the present similar provisions of the Surplus Property Act of 1944 after the Appropriation Act for 1946 is passed.

The third change in language permits the Corporation to dispose of commodities at less than the parity or comparable price therefore in cases where it is necessary for the Corporation to establish a claim against a person or persons who have committed fraud, misrepresentation or other wrongful act in connection with such commodities. Examples of the types of cases involved are those where:

(1) The producer falsely represented that there was no prior lien on the commodity; (2) a person not eligible for a loan has, through misrepresentation placed a commodity under loan; and (3) a commodity has been damaged through the wrongful act of the borrower, the warehouseman, a carrier, or other person.

In order to adequately protect the interests of the Government, it is necessary in these cases to sell the commodity involved in order to determine the amount of the loss resulting to the Corporation and thereby establish the liability of the person who committed the wrongful act and the amount of the Government's claim against such person.

The fourth change eliminates the superfluous word "in" which was inadvertently inserted in the language of the 1945 Act.

DESCRIPTION OF THE CORPORATION AND ITS ACTIVITIES

Organization: The Commodity Credit Corporation was created as an agency of the United States on October 17, 1933, pursuant to Executive Order No. 6340, dated October 16, 1933. Its functions as an agency of the United States have been continued from time to time by the Congress. Public Law 240, 78th Congress, continues these functions until June 30, 1945, or such earlier date as may be determined by the President of the United States.

The Corporation was transferred to the Department of Agriculture on July 1, 1939 by Reorganization Plan No. 1. It was made a part of the War Food Administration by Executive Order No. 9322 as amended by Executive Order No. 9334 of April 19, 1943, and it operates under the direction of the War Food Administrator.

Program authorization: The Agricultural Adjustment Act of 1938, as amended (7 U.S.C., 1940 ed., Supp. I, sec. 1330), authorizes and directs the Corporation to make loans available on the basic commodities cotton, corn, wheat, rice, tobacco and peanuts up to and including the 1946 crops. The Act of October 2, 1942 (50 U. S. C., 1940 ed., Supp. II, app., sec. 968), provides for such loans to be made available until two years after the 1st day of January following a declaration of the termination of the present war. The Act of July 1, 1941, as amended (15 U. S.C., 1940 ed., Supp. II, sec. 713 a-8), provides for loans, purchases, or other operations during

the same period to support the prices of nonbasic commodities for which expansion of production has been requested, and establishes a policy of conducting lending and purchasing operations in such a manner as to bring the price and income of producers of other non-basic commodities to a fair parity relationship with other commodities, to the extent that funds are available for such purpose.

Financial structure: Commodity Credit Corporation has an authorized paid-in capital of \$100,000,000. In addition, the act of March 8, 1938 (15 U.S.C. 713a-4), as amended, authorizes it, with the approval of the Secretary of the Treasury, to issue and have outstanding notes, bonds, debentures and other obligations not exceeding 3 billion dollars at any time, which are fully and unconditionally guaranteed as to principal and interest by the United States.

Capital gains and losses: The act of March 8, 1938 (15 U.S.C. 713a-1,2), directs the Secretary of the Treasury to determine the net worth of the Corporation by appraising its assets and liabilities as of March 31 of each year. The value of the assets must be determined on the basis of the cost plus carrying charges for not more than 1 year, or the average market price for the preceding twelve months, whichever is lower. After the appraisal has been completed the Act provides that the net worth of the Corporation shall be adjusted to its authorized capital of \$100,000,000 by having any appraisal deficiency restored by the Secretary of the Treasury or by depositing any appraisal excess into the general fund of the Treasury.

The appraisals made by the Secretary of the Treasury as of March 31, 1938, 1939, and 1941, disclosed capital impairments of \$94,285,404.73, \$119,599,918.05 and \$1,637,445.51, respectively, and these amounts were restored by the Treasury pursuant to an appropriation therefor by Congress. The appraisals as of March 31, 1940 and 1942, showed that the net worth of the Corporation exceeded its authorized capital by \$43,756,731.01 and \$27,815,513.68, respectively, and these amounts have been paid into the general fund of the Treasury. The appraisal as of March 31, 1943, disclosed an impairment of \$39,436,884.93. No appropriation was made by Congress to enable the Secretary of the Treasury to restore that impairment. The appraisal as of March 31, 1944, disclosed net impairment amounting to \$256,764,881.04 which will be restored by the Secretary of the Treasury if an appropriation is made therefor.

It should be noted that the amount of capital impairment or surplus net worth determined by the annual appraisal does not represent an actual gain or loss to the Corporation. The appraisal is, in effect, an estimate of what the gain or loss would be if all of the commodities owned by or pledged to the Corporation are disposed of at the appraised value. When the assets of the Corporation are disposed of, the gain or loss may be greater or smaller than that shown by the appraisal, as determined by the market prices at the time of sale.

From October 17, 1933 through December 31, 1944, total loans, purchases and other operations of the Corporation amounted to approximately 14 billion dollars. A condensed operating statement for the same period is as follows:

INCOME:

Interest income.....	\$ 62,479,417.17	
Other income.....	<u>4,110,761.06</u>	\$ 66,590,178.23

EXPENSE:

Interest expense.....	\$ 61,828,278.95	
Operating expense.....	<u>27,720,441.92</u>	<u>89,548,720.87</u>
Excess of expenses over income.....		\$ 22,958,542.64
Net loss from program operations.....		<u>814,951,212.44</u>
Excess of expenses and realized losses over income.....		<u>\$837,909,755.08</u>

Current and probable future operations: Loans outstanding on all commodities totaled 591 million dollars on October 31, 1944 as compared with 495 million dollars on October 31, 1943. Commodities owned by the Corporation on October 31, 1944, totaled 881 million dollars as compared with 870 million dollars a year previously. With total farm production for 1944 exceeding any previous year, loan rates at 95 percent of parity for cotton and 90 percent of parity for other commodities, and purchase programs being carried out which are expected to assure full parity to producers of wheat and cotton, it is anticipated that the stocks of commodities owned by or under loan to the Corporation will continue to increase. By the end of the fiscal year 1945, it is expected that the Corporation's inventory of owned or pledged commodities may be larger than in any year since the beginning of the war emergency. In order to carry and dispose of these inventories in an orderly manner, and to support the prices of 1945-crop commodities, it is expected that the volume of operations--loans, purchases and sales--may be greater during the fiscal year 1946 than during the fiscal year 1945, although a part of this increase may be offset by a decrease in feed wheat sales and other programs which will be curtailed as the feed situation improves. In general, a net increase in the volume of operations is anticipated for the fiscal year 1946.

Manner in which loans are made: Loans are made by the Corporation to producers and associations of producers of agricultural commodities. More than 90 percent of the loans to individual producers are made indirectly through private lending agencies, which, in most instances, is the producer's local bank. These banks make loans under conditions specified by the Corporation and on forms provided by the Corporation, with a guarantee that the Corporation will purchase the note upon demand at its face value, plus accrued interest at the rate of $1\frac{1}{2}$ percent. The difference between the rate of 3 percent charged all producers

on CCC loans and the $1\frac{1}{2}$ percent obtained by the private lending agency represents the compensation of the Corporation for its operating expenses. All loans to producers are non-recourse loans--unless vitiated by fraud, misrepresentation or other willful attempt to defraud the Government--and the producer can repay the loan by delivering to the Corporation the commodity pledged as collateral, even though, because of market fluctuations, the market value of the commodity may be at that time less than the face amount of the loan plus accrued interest, storage and other charges.

EXAMPLES OF PROGRAM OPERATIONS

General: Price-supporting loan and purchase programs, designed to encourage increased production of essential agricultural commodities, continued to receive major emphasis during the fiscal year 1944. The record number of livestock on farms, together with the relatively short supply of feed grains, made necessary vigorous programs to assure equitable distribution of available supplies, including the sale of 321 million bushels of Government-owned wheat for feed, the shipment of hay into drought areas, price adjustment to encourage movement of corn into dairy and poultry-producing areas, and the importation of Canadian wheat and oats and Argentine barley. As a further result of the tight feed situation it was necessary to undertake programs to stimulate the sale of corn for essential industrial and food processing. Rising feed costs threatened to bring about a decrease in the much-needed production of milk and dairy products, so that it was necessary to initiate a payment program to dairy producers to offset increased costs of production and reverse the downward trend in volume of production.

The bumper 1943-crop of potatoes together with the critical transportation situation and the lack of adequate storage in producing areas made necessary a comprehensive program to keep the potatoes moving into marketing channels and to divert to starch and dehydration processors the surplus that the edible market could not absorb, in order to hold losses from spoilage to a minimum and obtain maximum utilization of the record production. Purchases of a wide variety of agricultural commodities and products continued in large volume for lend-lease and governmental requirements, and stocks of Government-owned grain, cotton, tobacco and naval stores were also made available for these purposes.

Loan programs on 1944 crops have been announced generally at 90 percent of parity--except for cotton which is 95 percent--and, since July 1, 1944, purchase and sale programs for cotton and wheat have been initiated, in order to assure full parity prices to producers. Export programs, pursuant to the Surplus Property Act of 1944, have been announced for cotton, wheat and wheat flour, and during the first month of operation sales of substantial quantities of wheat and wheat flour for the West Indies and Central and South America and of cotton for Canada had been reported to the Corporation.

Summaries of program operations on the basic and certain other commodities follow. Tables of loan programs from date of organization through June 30, 1944 and loans outstanding June 30, 1944, of purchase and other

programs from date of organization through June 30, 1944, an inventory of commodities owned as of June 30, 1944, and a table showing the distribution of loans by states for the fiscal year 1944 and since organization appear at the end of these explanatory notes for the Corporation.

COTTON

Loans were made on about 3.6 million bales of 1943-crop cotton at an average loan rate of 18.41 cents per pound for middling 7/8 inch cotton, gross weight, which represented 90 percent of the parity price on August 1, 1943. The quantity placed under loan was slightly more than 31 percent of the 1943 crop of over 11 million bales. Prices advanced about 1 cent per pound during the fiscal year 1944, and producers redeemed 1.8 million bales of 1943-crop cotton as well as 647 thousand bales of 1942-crop cotton and 162 thousand bales of 1941-crop cotton. Loan stocks on June 30, 1944, totaled 4.5 million bales of which 2.5 million bales were 1943-crop cotton, 1.6 million bales were 1942-crop cotton, and 323 thousand bales were 1941-crop cotton which had been pooled on September 15, 1943. Net proceeds from the sale of the pooled cotton will be distributed among the producers participating in the pool in proportion to their interests. Approximately 1.3 million bales of 1942-crop cotton was pooled on August 15, 1944, and will be handled in the same manner as the 1941-pooled cotton.

Approximately 802 thousand bales of Government-owned cotton was sold during the fiscal year 1944, of which 641 thousand bales were sold for lend-lease, 128 thousand bales were sold under the general sales program, and 33 thousand bales were sold for the new uses program carried on by the Department. Government-owned stocks of cotton on June 30, 1944 amounted to 2.3 million bales.

Price supports on domestic long-staple cotton were carried out by purchases of 45 thousand bales of American-Egyptian and 34 bales of Sea-Island cotton, and by loans on 2,182 bales of American-Egyptian cotton. In order to meet the needs of the armed forces, the Corporation purchased 712 bales of Puerto Rican Special Sea-Island cotton and 72 thousand (500-pound basis) of Egyptian and Sudanese cotton. Loans are available on 1944-crop American-Egyptian cotton at 40.90 cents per pound for grade No. 2, 1½-inch staple, net weight; and on Sea-Island cotton at 43 cents per pound for grade No. 2, 1½-inch staple, net weight.

Loans on 1944-crop cotton were announced on August 4, 1944, at an average loan rate of 19.50 cents per pound for Middling 7/8 inch cotton, gross weight, which represented 92½ percent of the parity price of cotton on August 1. In accordance with the provisions of the Surplus Property Act of 1944, approved October 3, the loan rate was increased to an average of 20.03 cents per pound, gross weight, for Middling 7/8 inch cotton, which is 95 percent of the parity price of cotton on August 1, 1944. Producers who had obtained loans at the lower rate are receiving supplemental payments to raise their loans to the higher loan rate. Through December 2, 1944, loans had been advanced on 1.2 million bales of 1944-crop cotton.

On September 23, 1944, a cotton purchase and sales program was announced under the provisions of the Stabilization Extension Act of 1944. Under this program 1944-crop cotton is being purchased at 21.90 cents per pound for Middling 15/16-inch cotton, basis gross weight flat cotton at Memphis, Tennessee, during the month of October 1944, with the price advancing five points per pound each month until it reaches 22.25 cents per pound in May 1945. On October 2, 1944, CCC offered its stocks of owned and pooled cotton for sale at 22.40 cents per pound for Middling 15/16-inch flat cotton, gross weight, at Memphis, Tennessee, for October 1944, with the price advancing five points per pound until it reaches 22.65 cents per pound in March 1945. The seasonal increase in the sales price is expected to encourage the mills to purchase their cotton through regular trade channels and to keep at a minimum the purchases by CCC. Purchases under this program had amounted to 408 thousand bales through December 5, 1944.

A program to facilitate the exportation of cotton in accordance with the provisions of the Surplus Property Act of 1944 was announced on November 11, 1944. Under this program, exporters register their export sales with CCC and become eligible either to purchase an equivalent quantity of Government-owned cotton at a special export price or to receive a payment equal to the export differential if the Corporation does not have or does not wish to sell the equivalent cotton. Through December 5, 1944, approximately 23 thousand bales had been registered under the export program.

Cotton linters. On August 28, 1943, CCC offered to purchase cotton linters in an amount equal to the greater of (1) 65 percent of each mill's 1943 production, or (2) the mill's War Production Board assignment. The Corporation had 690 thousand bales of linters on hand at the beginning of the year, bought 740 thousand bales and sold slightly more than 1 million bales to bleachers during the year, and had 420 thousand bales on hand at the end of the fiscal year.

CORN

Loans were offered on 1943 corn at 85 percent of parity which resulted in an average loan rate of 84 cents per bushel at the farm. By June 30, 1944, loans were advanced on about 8 million bushels of 1943 corn. Nearly all of this corn had been redeemed by November 18, 1944. Loans on 1944-crop corn are available at an average rate of 98 cents per bushel, which is based on 90 percent of parity.

During the fiscal year, sales of Government-owned corn totaled 17 million bushels, of which 10 million bushels were sold for feed; 6 million bushels for processing into edible and industrial products and less than a million bushels for lend-lease and export. Between July 1 and November 18, 1944, approximately 1.4 million bushels of corn were sold by CCC.

The extremely tight situation which developed in the movement of corn through commercial channels in the late spring of 1943 and which made it virtually impossible for corn processing plants to obtain supplies for the production of essential industrial and food products continued through most of the 1944 fiscal year.

By the middle of March 1944, receipts of corn at primary markets had dropped to less than half the volume shipped during the same period of 1943 and the supply of corn in the hands of processors was again at a low level. A set-aside order (FDO 96) was issued, effective March 24, 1944, requiring country elevators in 124 counties in the surplus corn producing areas of Minnesota, Nebraska, Iowa, Illinois and Indiana, to offer to purchasers designated by the War Food Administration, 35 percent of all stocks of corn and a like percentage of all future receipts of corn. Terminal elevators within the same area also were required to set aside 35 percent of stocks and receipts coming from sources other than country elevators. Effective April 1, the percentage to be set aside for purchase by designated essential processors was increased to 60 percent when some plants were forced to discontinue operations due to their inability to obtain corn supplies. The situation became so critical that, effective April 25, 1944, WFO 98 was issued restricting for 60 days the sale of all corn not required for the farmers' own needs or by local feeders in the surplus producing area to Commodity Credit Corporation for the use of processors of critical war materials from corn, and CCC agreed to pay for the shelling and delivery at the rate of 5 cents per bushel for all corn sold to the Corporation under this program. Under this order, 45 million bushels had been acquired for the processors' use by June 30, 1944, and in addition, approximately 25 million bushels had been contracted for future delivery for this purpose. On expiration June 23, 1944, WFO 98 was replaced by WFO 103 which reinstated a variable percentage set-aside program. Losses to the Corporation under this program, including the shelling and delivery payments, totaled about 3.6 million dollars. By October 2, 1944, processors had acquired sufficient supplies to assure continued operation until the new crop became available, and WFO 103 was terminated.

To supplement the domestic corn supplies, the Corporation arranged for the importation of approximately 7.6 million bushels of corn from Argentina. This corn was brought in by private importers for allocation by the War Food Administration to purchasers in 25 Southern and Eastern States and 4 Pacific Coast States. In order to permit the importation of this corn at prices in line with price ceilings on domestic corn, Commodity Credit Corporation reimbursed the importers for the amount of import duties on this corn.

On May 17, 1943, the Corporation agreed to sell corn to manufacturers, feed mixers and feeders in the New England, Atlantic Seaboard, and Southeastern States at the lower ceiling price prevailing in this area or to purchase corn in surplus areas at the market price and sell an equivalent quantity at a price basis comparable with the lower ceiling levels in the eastern area. Approximately 37 million bushels of corn

were brought into the eastern area under this program at an average cost to the Corporation of approximately 5 cents per bushel. The price adjustment arrangement was discontinued on December 4, 1943, when a new ceiling order became effective reconciling the price differences between areas.

WHEAT

Loans on 1943 wheat were made available at 85 percent of parity. Approximately 130 million bushels of wheat were placed under loan at an average loan rate of \$1.23 per bushel at the farm. By June 30, 1944, farmers had redeemed 114 million bushels and delivered 64 thousand bushels to Commodity Credit Corporation with 14 million bushels of farm-stored wheat still outstanding under loan and slightly less than 2 million bushels in process of liquidation. Loans are available on the 1944 wheat crop at 90 percent of parity or an average loan rate of \$1.35 per bushel at the farm. By November 30, 1944, loans had been advanced on 160 million bushels of 1944 wheat. During the 1944 fiscal year, the Corporation purchased both foreign and domestic wheat for use in relieving the critical feed situation. Domestic wheat purchases totaled 78 million bushels in addition to 8 million bushels purchased from the FCIC during the year. Approximately 133 million bushels of wheat were purchased from Canada and slightly over one million bushels from Argentina making total wheat purchases during the fiscal year of 221 million bushels.

Sales of wheat totaled 346 million bushels of which 321 million bushels were sold for feeding purposes; 16 million bushels for normal use; 8 million bushels to FCIC; and less than a million bushels for lend-lease. Government-owned wheat stocks totaled 99 million bushels on June 30, 1944.

With a record 1944 wheat crop, purchases of foreign wheat have been curtailed since July 1, 1944, with less than 6 million bushels being purchased by November 25, 1944. In addition to the 1944 loan program, a purchase program for domestic wheat was announced in order to acquire wheat during the heavy marketing season to fill feed and other Governmental requirements. Slightly more than 102 million bushels of wheat were purchased under this program between July 1 and November 25, 1944. During the same period, 92 million bushels were sold for feed and 20 million bushels for other purposes.

On September 24, 1944, it was announced that CCC will purchase all unredeemed 1944-crop wheat still under loan on May 1, 1945, at a price equal to the loan rate plus 15 cents per bushel, less accrued carrying charges to the end of the storage year. This offer has operated as a definite price support for wheat.

Programs to facilitate the exportation of wheat and wheat flour in accordance with provisions contained in the Surplus Property Act of 1944 were announced on November 11, 1944. Under this program, CCC sells wheat for export at domestic market prices less an announced differential,

or pays the differential to exporters who export their own wheat or flour. By December 8, 1944, the equivalent of 1.1 million bushels of wheat had been reported to CCC for export, mostly as flour, under the program.

BARLEY

Loans were made on 759 thousand bushels of barley during the fiscal year ended June 30, 1944, at a loan rate of 73 cents per bushel at the farm with 659 thousand bushels being redeemed by producers and no barley being delivered to the Corporation at the end of the fiscal year. The loan rate on 1944 barley is 85 cents per bushel for No. 1 barley in States east of the Rocky Mountains and 90 cents per bushel in States west of the Rocky Mountains. By November 22, 1944, loans had been advanced on 2.5 million bushels. Owned stocks of barley totaled 66 thousand bushels on June 30, 1944.

To aid in alleviating the serious feed shortage in the Southeastern States, arrangements were made for the importation of approximately 10 thousand tons of barley during the spring of 1944. The merchandizing of this barley was handled by the trade in accordance with distribution instructions from the Corporation. In addition, Commodity Credit Corporation arranged for the allocation to feed manufacturers of three boatloads of Argentine barley imported by the Foreign Economic Administration through the ports of New York, New Orleans and Houston.

RYE

During the 1944 fiscal year, loans were made on 131 thousand bushels of rye at an average loan rate of 75 cents per bushel at the farm. Loans on 116 thousand bushels have been redeemed by the end of the fiscal year with no deliveries to the Corporation, and the remainder in process of liquidation. Loans are available on the 1944 crop at the rate of 75 cents per bushel. About 47,000 bushels had been placed under loan by November 18, 1944. Owned stocks of rye totaled 115 thousand bushels on June 30, 1944.

GRAIN SORGHUMS

Loans were completed at an average loan rate of 84 cents per bushel at the farm on 46 thousand bushels of 1943-crop grain sorghum during the fiscal year 1944. By June 30, 1944, 37 thousand bushels had been redeemed and the remainder was in process of liquidation with no grain sorghum being delivered to the Corporation. Loans are available on 1944-crop grain sorghum at 95 cents per bushel for No. 2 grades or better in all states except Arizona and California where the loan rate is \$1.00 per bushel at the farm. About 437,000 bushels had been placed under loan by November 22, 1944.

CANADIAN OATS

In order to augment domestic feed supplies, arrangements were made in April 1944, to import oats from the western provinces of Canada. Approximately 2 thousand cars of oats were brought into the United States by the Corporation under this program with distribution to feeders and mixers being handled by the trade.

DRY EDIBLE BEANS AND PEAS

In order to encourage the production of dry edible beans and peas for food, the Commodity Credit Corporation inaugurated purchase, price support and loan programs covering the 1943 crop. During the 1944 fiscal year, the Corporation purchased approximately 7 million pounds of dry edible beans--the price ranging from \$6.50 to \$7.50 per 100 pounds for No. 1 beans, with almost all of these beans being sold to processors by June 30, 1944. In addition, loans were made on about 38 million pounds of thresher run beans at an average rate of about \$5.40 per 100 pounds. By June 30, 1944, over 37 million pounds had been redeemed from under loan with no deliveries to the Corporation. To maintain the support price, payments at an average rate of approximately 69 cents per 100 pounds were made on 611 million pounds of 1943 crop beans.

In addition, a loan program was established for bean dealers to serve as a basis for bank credit where legal requirements limited the bank's ability to advance funds for working capital without Government guarantee of loans.

Support prices on 1944-crop beans range from \$6.50 to \$8.00 per hundred pounds for No. 1 beans. Purchases will be made at the support prices through June 30, 1945, and loans ranging from \$4.60 to \$5.50 per hundred pounds will be available on thresher run beans.

Loans also were made on 4 million pounds of 1943-crop dry edible smooth peas at an average rate of 4-1/4 cents per pound. By June 30, 1944, over 3 million pounds had been redeemed by producers with no deliveries to the Corporation. Adjustment payments will be made on 1944-crop dry wrinkled peas, which are sold for feed, in order to assure the support price to producers.

SEED PURCHASE PROGRAM

In order to assure a supply of cover crop seeds for the southeastern area of the United States, Commodity Credit Corporation purchased about 126 million pounds of Austrian winter peas, hairy vetch, alyce and human clover, lespedeza and rye grass seed from the 1943 crop. This seed was sold to the Agricultural Adjustment Agency to be distributed to farmers in the southern and east central regions for carrying out soil building practices.

HAY AND PASTURE SEED

In order to induce the harvest of sufficient seed for planting in 1944, Commodity Credit Corporation initiated a price support loan program on alfalfa, sweet clover, timothy, orchard grass, bermuda grass and other hay and pasture seeds stored in approved warehouses. Loans were made on 170 thousand pounds of hay and pasture seeds from the 1943 crop. By June 30, 1944, all seeds under loan had been redeemed by producers. Loans are available on 1944-crop seed and nearly 3.2 million pounds had been placed under loan by November 18, 1944.

HAY FOR DROUGHT STATES

Under an agreement between Commodity Credit Corporation and the Southern States Cooperative Association, approximately 180 thousand tons of hay were purchased during the 1944 fiscal year in surplus producing areas of the United States and Canada and made available to dairy farmers in the drought counties of Maryland, Pennsylvania, Delaware, West Virginia, Virginia and North Carolina, in order to maintain milk production in those areas. The difference between cost and selling price averaging about 15 dollars per ton has been paid by Commodity Credit Corporation. Sales were limited to feeding requirements of dairymen through May 15, 1944.

DAIRY PRODUCTION PROGRAM

A program for stabilizing feed costs to dairy producers was undertaken in September 1943 when feed costs were rising rapidly with a resultant decline in the production of milk and butter fat. Under the program, Commodity Credit Corporation has absorbed the difference between the prices of purchased feed and the prices of such feed in September 1942. Payments to producers are made upon the basis of fluid milk and butter fat marketed. Through October 31, 1944, payments to more than 1-1/2 million producers totaled 280 million dollars. The rate of payment fluctuates with the seasons, being highest during the winter months, and varies with the geographic location of producers. Since the inauguration of this program the downward trend in milk production has been reversed and new records in milk production are now being achieved.

GRAIN BIN SALES PROGRAM

Sale of the wooden grain bins, purchased in 1942, to farmers increased materially during the last half of 1943 and the first half of 1944. The sale price of the bins was reduced in the spring of 1944 to encourage purchases by farmers and to adjust the number to be retained by the Corporation for storage of grain owned by it. Since the beginning of the sale program through November 1, 1944, wooden bins with a storage capacity of about 69 million bushels and steel bins with a storage capacity of about 27 million bushels had been sold to farmers. Sales are continuing on the wooden bins owned by the Corporation on November 1, 1944, with a storage capacity of 87 million bushels. The capacity of steel bins owned on November 1, 1944, was nearly 110 million bushels.

GRAIN BLOWERS, ELEVATORS AND REMOVERS

Commodity Credit Corporation augmented its original 1942 purchases of grain blowers, elevators and removers during the 1944 fiscal year only to the extent of 311 portable elevators which were needed urgently at large steel and wooden bin sites where manpower was not available to fill and empty the grain bins. Sale of the farm-type elevators and blowers purchased in 1942 was continued during the fiscal year. A recent survey indicates that most large bin sites where Corporation-owned grain is stored now are equipped with grain handling machinery.

OILSEEDS

Soybeans: During the fiscal year 1944, Commodity Credit Corporation made loans on about 258 thousand bushels of farm-stored soybeans at an average rate of \$1.84 per bushel. By June 30, 1944, 165 thousand bushels had been redeemed and the remainder was in process of redemption. The Corporation also purchased about 33 million bushels of soybeans of which 22 million bushels had been sold for crushing by the end of the fiscal year. Loans are available on 1944-crop farm-stored soybeans at \$2.04 per bushel for No. 2 yellow and green and at \$1.84 per bushel for black, brown and mixed. The Corporation also entered into contracts with processors and handlers to assure payment of not less than the support price to producers of soybeans.

In order to assure the maximum production of soybean oil and meal, CCC purchased soybeans from processors at support prices and resold to processors at the oil and meal value less a specified margin based on the processor's equipment and daily capacity. The loss to the Corporation under this operation was about 7-1/2 cents per bushel on approximately 92 million bushels of soybeans crushed through June 30, 1944.

Although expanded considerably, the soybean processing capacity in the principal producing states was insufficient to handle the quantity of soybeans available for crushing. CCC purchased 21.7 million bushels of soybeans which could not be processed in the producing area and shipped them to the Southeast and Southwest where processing facilities were available and there was an acute need for the soybean meal. The Corporation absorbed transportation and other costs on these soybeans, which amounted to about 11-1/2 cents per bushel. Fifty percent of the meal produced under this operation was made available to the Office of Production for allocation into areas in dire need of high protein meals.

Under its processing contracts, CCC agreed to purchase soybean oil at 1/8 cent per pound less than the ceiling price, and soybean meal at \$2.00 per ton less than the ceiling price. With the exception of 400 tank cars of soybean oil which were sold for shipment to the United Kingdom and Russia under lend-lease, CCC was not required to acquire any oil or meal under these contracts.

Cottonseed: In order to maintain support prices for cottonseed, CCC offered to purchase at fixed prices the cottonseed oil, cottonseed meal and cotton linters from processors who agreed to pay not less than the announced support price for cottonseed. The Corporation was not required to purchase any cottonseed oil or meal under this offer. A brief summary of purchases of cotton linters under War Production Board allocations is included in the section headed "Cotton."

Flaxseed: During the fiscal year 1944, loans were made on about 600 thousand bushels of flaxseed at an average rate of \$2.66 per bushel at the farm. By the end of the fiscal year farmers had redeemed 300 thousand bushels and the remainder was in process of redemption. Loans are available on 1944-crop flaxseed at \$2.95 per bushel for No. 1 grade basis Minneapolis.

As a further price support CCC made contracts with flaxseed processors in which they agreed to pay not less than the support price for all flaxseed purchased. CCC also agreed to purchase any linseed oil offered to it at 0.7 cent per pound below the ceiling price, and linseed oil meal at \$2.00 per ton below the ceiling price. Under these contracts CCC purchased about 20 million pounds of linseed oil but was not required to purchase any meal.

Peanuts: During the fiscal year 1944, Commodity Credit Corporation, acting through contracts with shellers, crushers and producer cooperative associations, purchased the entire commercial crop of farmers' stock peanuts at not less than the support prices. A total of about 883 thousand tons of peanuts were purchased at average prices of \$135 per ton for Runner type peanuts, \$143 per ton for Spanish type, and \$145 per ton for Virginia type. Sales of peanuts during the 1944 fiscal year totaled about 836 thousand tons of which approximately 612 thousand tons were sold to shellers, 198 thousand tons to crushers and 25 thousand tons to seed dealers.

In order to encourage the increased use of peanuts for edible purposes, CCC made refunds to manufacturers of peanut butter at a rate of 4-1/2 cents per pound on all shipments for home consumption. Payments amounting to nearly \$5,600,000 were made on about 124 million pounds of peanut butter. About 48 percent of all shelled peanuts of the 1944 crop were used for peanut butter.

Support prices for 1944-crop peanuts average about \$20 per ton higher than the 1943 prices, while the sale price of peanuts sold by CCC for shelling will be approximately the same as for the 1943 crop. It is estimated that CCC will absorb losses of about 50 cents per ton on 1944-crop peanuts sold for shelling and about \$67 per ton on 1944-crop peanuts sold for crushing.

TOBACCO

Flue-cured tobacco: During the fiscal year 1944, CCC purchased 234 million pounds, redried weight, of flue-cured tobacco at a total cost of \$121,000,000. By the end of the fiscal year, 105 million pounds had been sold, of which 72 million pounds were sold direct to the British for cash and the remainder was sold for lend-lease purposes. Total CCC stocks of flue-cured tobacco amounted to 129 million pounds on June 30, 1944. Through November 24, 1944, 304 million pounds of 1944-crop flue-cured tobacco had been purchased.

Dark tobacco: Purchases of dark tobacco during the fiscal year 1944 totaled 3 million pounds. Loans were made through cooperative associations on about 2 million pounds. Sales included 1.1 million pounds to British Countries for cash and 121,000 for lend-lease purposes. Total CCC stocks of dark tobacco were 6.5 million pounds on June 30, 1944. Purchases will continue, and loans at 90 percent of parity will be available during the 1945 fiscal year.

Burley tobacco: A total of 573 thousand pounds of burley tobacco was purchased during the fiscal year 1944. Loans at 90 percent of parity were available, but no tobacco was offered. Loans will again be available on 1944-crop tobacco, and a small quantity will be purchased.

Cigar leaf tobacco: Loans at 90 percent of parity were offered on 1943-crop cigar tobacco but no loans were made. Loans will be available on 1944-crop tobacco but no loans are anticipated.

GUM NAVAL STORES

During the fiscal year ending June 30, 1944, Commodity Credit Corporation made loans on 6,535 drums of rosin and 89 barrels of turpentine, and purchased 37,342 drums of rosin and 84,159 barrels of turpentine. All of the loans were repaid prior to maturity. Stocks of gum naval stores on June 30, 1944, consisted of 215,575 barrels of turpentine, 22,144 barrels of rosin which is being reprocessed, and 16,824 drums of rosin which is being held for lend-lease requirements. Loans on 1944 naval stores are available at 90 percent parity, and a purchase program at 95 percent of parity is in effect, but no naval stores had been offered to the Corporation by September 30, 1944.

WOOL

Under the 1943 wool program, Commodity Credit Corporation purchased 282 million pounds of wool at a total cost of \$158,000,000 and by September 30, 1944, had sold 142 million pounds, leaving an inventory of 140 million pounds on that date. The price paid to the producer was the ceiling price for the particular grade, type and quality of wool less specified transportation and marketing charges. The average farm price per grease pound for wool produced in the United States during 1943 was 41.6 cents -- the highest average price recorded for any year since 1920. Under the

1944 wool program, initiated April 1, 1944, CCC had purchased over 243 million pounds of wool by September 30, 1944, at prices which reflected an average farm price of 42 cents per pound on June 15.

POTATOES

The 1943 crop of 465 million bushels of potatoes was by far the largest on record. In order to carry out price support commitments made to producers and to assure the orderly marketing of the large crop with minimum wastage or spoilage, Commodity Credit Corporation carried out a number of integrated programs. Loans amounting to \$6,800,000 were advanced on 7.2 million bushels of potatoes, 11.3 million bushels were handled for the Corporation by dealers and cooperatives acting under contract, 1.8 million bushels were moved from producing areas to consuming areas by ship to relieve rail transportation, and 9.8 million bushels were dehydrated and used for livestock feed and the manufacture of industrial alcohol. Support prices on 1943-crop potatoes ranged from \$1.70 to \$2.25 per cwt. during September, October and November, 1943, with a 20-cent increase effective December 1, 1943 and an additional 10-cent increase effective January 1, 1944. Support prices for 1944-crop potatoes range from \$1.70 to \$2.25 per cwt. for September with a 5-cent increase effective October 1, a 10-cent increase effective November 1 and a 10-cent increase effective December 1, 1944.

Loans were advanced on 13 thousand bushels of sweet potatoes all of which had been redeemed by the end of the fiscal year.

SUGAR

The 1944 Cuban sugar crop was one of the largest in history, amounting to over 5.6 million tons, raw value, all of which was purchased by Commodity Credit Corporation at 2.65 cents per pound, f.o.b. port of shipment, with the exception of 901 thousand tons which was imported by Defense Supplies Corporation in the form of high-test molasses and a small quantity which was retained by Cuba for internal consumption. Negotiations with the Cuban Sugar Stabilization Institute for the purchase of the 1945 and 1946 Cuban sugar crops were begun late in August 1944.

Nearly all of the 1943 Puerto Rican sugar crop was purchased by CCC at a price of 3.46 cents per pound, f.o.b. port of shipment. CCC has offered to purchase the 1944 crop at a price of 3.46 cents per pound plus an additional 20 cents per hundred pounds if growers meet certain planting requirements. Nearly all Puerto Rican producers have executed the purchase contract. A price support program to encourage increased production in 1945 is contemplated.

CCC also reimbursed importers or refiners for, or absorbed charges in connection with excess ocean freight, insurance and rail transportation charges on Caribbean and Hawaiian cane sugar.

In order to encourage maximum production and processing of sugar beets, the 1944 price support program assured growers an increase of \$3.00 per ton over the price received for 1942-crop sugar beets, and it is estimated that the average return to growers will amount to \$12.50 per ton including payments under the Sugar Act of 1937. CCC also conducted a program to reimburse sugar beet processors for excess transportation costs incurred in moving beets to areas where processing facilities were available. Under the 1945 price support program returns to growers will average about \$12.50 per ton including payments under the Sugar Act.

Under the 1945 Florida and Louisiana Sugarcane Price Support Program, payments of \$.53 to \$1.60 per ton will be made to Louisiana growers and of \$1.60 per ton to Florida growers. Payments are subject to adjustment in the event of an advance in the market value of sugar. CCC is also reimbursing refiners of Louisiana raw cane sugar for excess transportation costs.

OTHER COMMODITIES

Other commodities on which programs were carried out by Commodity Credit Corporation during the fiscal year 1944 include the following:

Hemp: Pursuant to directives from the War Production Board CCC purchased and is processing sufficient hemp straw from the 1943 crop to produce about 100 million pounds of hemp line and tow fiber.

The 1944 program provides for the planting of 62 thousand acres for fiber. No contracts were entered into with growers for the production of hemp seed in 1944 since ample seed was available to complete the wartime hemp program. An open offer to purchase hemp seed produced in 1944 at \$7.00 per bushel was made by the Corporation in order to guarantee a reasonable price to producers for hemp seed grown for private uses.

Milkweed floss: During the fiscal year 1944, approximately 86 thousand pounds of milkweed floss was purchased by CCC and sold to Defense Supplies Corporation for use as a substitute for kapok in the manufacture of lifebelts. During the fiscal year 1945, it is hoped to obtain 1.5 million pounds of milkweed floss for this purpose.

Alaska spruce logs: By June 30, 1944, a total of about 40 million board feet of high grade spruce logs had been cut, most of which had been delivered to the Puget Sound area for cutting into airplane grade lumber. Upon the advice of the War Production Board, that requirements had been met, the program is being discontinued.

Miscellaneous: During the fiscal year 1944, CCC purchased large quantities of various commodities for Army, Navy, lend-lease and other Governmental requirements. Total purchases for these purposes from the beginning of the program in March 1941 through October 31, 1944, amounted to over 5 billion dollars. Other programs include loans on olive oil, purchases of butter, cheese, castor bean seed and pyrethrum seed, a program to finance the requisitioning and utilization of idle farm machinery, and payment programs on apples, grapefruit juice, prunes, raisins, shortening and vegetables for processing.

(b) Emergency Fund for the President, National Defense
(Allotment to Commodity Credit Corporation)

This budget schedule covers obligations in 1944 by the Corporation for printing costs under an allotment from the President's Emergency Fund for administrative expenses in connection with stabilizing feed costs to dairy producers. Other administrative expenses under this allotment were financed by transfers to the AAA in 1944. Administrative expenses of the dairy production payment program in 1945 and 1946 are provided from the Corporation's administrative funds.

WAR FOOD ADMINISTRATION
COMMODITY CREDIT CORPORATION
TABLE I: LOAN PROGRAMS FROM DATE OF ORGANIZATION THROUGH JUNE 30, 1944
AND
LOANS OUTSTANDING JUNE 30, 1944

PROGRAM	Total Loans Made 1/		Loans Outstanding June 30, 1944			
	Quantities Pledged	Face Amount	Book Value 2/			Total Quantities Pledged To Secure Loans
			Held by Commodity Credit Corporation	Held by Private Lending Agencies	Total	

- - - IN THOUSANDS - - -

	<u>Bushels</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Bushels</u>
<u>Barley</u>						
1940-42	38,971	17,389	42	-	42	81
1943	752	557	36	44	80	109
Total	39,730	17,946	78	44	122	190
<u>Batter</u>	<u>Pounds</u>					<u>Pounds</u>
1938-40	127,166	32,156	-	-	-	-
<u>Corn</u>	<u>Bushels</u>					<u>Bushels</u>
1933-42	1,182,049	667,187	55	113	168	232
1943	7,723	6,502	85	4,996	5,081	6,045
Total	1,189,772	673,689	140	5,109	5,249	6,277
<u>Cotton</u>	<u>Bales</u>					<u>Bales</u>
1933-42	25,311	1,470,584	136,351	7,507	143,858	1,633
1943	3,585	342,306	201,097	54,323	255,420	2,553
Total	28,896	1,812,890	337,448	61,830	399,278	4,186
<u>Dates</u>	<u>Pounds</u>					<u>Pounds</u>
1937	1,533	61	-	-	-	-
<u>Dry Beans</u>	<u>Owt.</u>					<u>Owt.</u>
1943	455	3,937	1	1	2	476
<u>Dry Peas</u>	<u>Owt.</u>					<u>Owt.</u>
1943	42	178	46	-	46	11
<u>Figs</u>	<u>Tons</u>					<u>Tons</u>
1937-39	14.6	260	-	-	-	-
<u>Flaxseed</u>	<u>Bushels</u>					<u>Bushels</u>
1941-42	2,319	4,721	6	-	6	3
1943	600	1,594	39	832	871	318
Total	2,919	6,315	45	832	877	321
<u>Grain Sorghums</u>	<u>Bushels</u>					<u>Bushels</u>
1940-42	540	204	-	-	-	-
1943	46	39	2	6	8	10
Total	586	243	2	6	8	10
<u>Hay and Pasture Seeds</u>	<u>Pounds</u>					<u>Pounds</u>
1943	174	20	-	-	-	-
<u>Hops</u>	<u>Pounds</u>					<u>Pounds</u>
1938	7,077	1,388	-	-	-	-
<u>Naval Stores</u>	<u>Barrels</u>					<u>Barrels</u>
1934-42 Turpentine	681	11,660	-	-	-	-
1934-42 Rosin	2,979	33,479	258	-	258	23
1943 Turpentine	-	3	-	-	-	-
1943 Rosin	6	118	-	-	-	-
Total Turpentine	681	11,663	-	-	-	-
Total Rosin	2,985	33,597	258	-	258	23
<u>Peanuts</u>	<u>Tons</u>					<u>Tons</u>
1937-40	250.2	14,986	-	-	-	-
<u>Pecans</u>	<u>Pounds</u>					<u>Pounds</u>
1938	3,705	371	-	-	-	-
<u>Potatoes</u>	<u>Owt.</u>					<u>Owt.</u>
1943	4,246	6,687	3,055	734	3,789	2,315
<u>Prunes</u>	<u>Tons</u>					<u>Tons</u>
1937-40	170.0	8,137	-	-	-	-
<u>Raisins</u>	<u>Tons</u>					<u>Tons</u>
1937-40	237.3	9,079	-	-	-	-

WAR FOOD ADMINISTRATION
COMMODITY CREDIT CORPORATION
TABLE I: LOAN PROGRAMS FROM DATE OF ORGANIZATION THROUGH JUNE 30, 1944
AND
LOANS OUTSTANDING JUNE 30, 1944

PROGRAM	Total Loans Made 1/		Loans Outstanding June 30, 1944			
	Quantities Pledged	Face Amount	Book Value 2/			Total Quantities Pledged To Secure Loans
			Held by Commodity Credit Corporation	Held by Private Lending Agencies	Total	
----- IN THOUSANDS -----						
<u>Rye</u>	<u>Bushels</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Bushels</u>
1939-42	13,437	6,541	25	-	25	43
1943	<u>131</u>	<u>98</u>	<u>6</u>	<u>6</u>	<u>12</u>	<u>16</u>
Total	13,568	6,639	31	6	37	59
<u>Soybeans</u>	<u>Bushels</u>					<u>Bushels</u>
1941-42	3,790	5,680	11	7	18	12
1943	<u>258</u>	<u>474</u>	<u>146</u>	<u>31</u>	<u>177</u>	<u>92</u>
Total	4,048	6,154	157	38	195	104
<u>Tobacco</u>	<u>Pounds</u>					<u>Pounds</u>
1931-42	203,004	28,199	174	543	717	2,808
1943	<u>71</u>	<u>18</u>	<u>-</u>	<u>19</u>	<u>19</u>	<u>71</u>
Total	203,075	28,217	174	562	736	2,879
<u>Wheat</u>	<u>Bushels</u>					<u>Bushels</u>
1938-43	1,304,736	1,189,727	2,543	1,220	3,763	3,050
1943	<u>129,848</u>	<u>161,952</u>	<u>662</u>	<u>19,168</u>	<u>19,830</u>	<u>15,569</u>
Total	1,434,584	1,351,679	3,205	20,388	23,593	18,619
<u>Wool and Mohair</u>	<u>Pounds</u>					<u>Pounds</u>
1938-39	93,978	16,830	-	-	-	-
Other 3/	<u>-</u>	<u>9,906</u>	<u>1,906</u>	<u>-</u>	<u>1,906</u>	<u>-</u>
GRAND TOTAL		4,053,028	346,546	89,550	436,096	

^{1/} Includes loans made directly by Commodity Credit Corporation and guaranteed loans made by banks and other lending agencies. Renewals and extensions of loans previously made are excluded. These are face amounts only with the exception of tobacco; advances for storage, handling and transportation are excluded.

^{2/} Book values of outstanding loans held by the Corporation include face amounts and all charges paid with the exception of tobacco. Accrued charges are excluded. Loans held by private lending agencies are face amounts only.

^{3/} Includes American Egyptian Cotton Seed 1943, Fiber Flax 1942, Foreign, Hemp Seed Harvesting Equipment 1942, Lined Oil 1942, Olive Oil 1942-43, Peanut Equipment and Warehousing 1942, Raisins Producers Association and War Hemp.

WAR FOOD ADMINISTRATION
COMMODITY CREDIT CORPORATION
TABLE II: PURCHASE AND OTHER PROGRAMS FROM DATE OF ORGANIZATION
THROUGH JUNE 30, 1944

- - - - I N T H O U S A N D S - - - -

Program	Quantity	Amount 1/ <u>Dollars</u>	Program	Quantity	Amount 1/ <u>Dollars</u>
Alaska Spruce Logs 1942-44		7,153	General Commodities 1941-44		4,575,062 2/
American Cheddar Cheese 1943-44		291,734	Grain Storage Bins and Equipment 1942-44		37,070
American Egyptian and Sea Island Cotton 1942-44	<u>Bales</u> 52	11,781	Miscellaneous Seeds 1940-44		23,089
Canning Vegetables 1943		20,938	Naval Stores 1942-44	<u>Barrels</u> 617	14,805
Cotton, Furlap and Jute 1942-44		5,126	Oilseeds and Products 1942-44		838,982
Cotton Linters 1942-44	<u>Bales</u> 2,100	60,821	Peanut Seed and Bags 1942-44		10,058
Dairy Feed Payments 1943-44		153,136	Potatoes 1943-44		10,419
Dairy Products 1941-44	<u>Pounds</u> 481,551	178,212	Prunes and Raisins 1943-44		15,662
Fluid Milk 1943-44	<u>Cwt.</u> 42,191	157,119	Tobacco 1939-44	<u>Pounds</u> 910,166	319,624
Foreign Commodities: 1942-44			War Hemp 1943-44		23,886
Coffee		276,819	Wheat 1943-44		203,251
Fats, Oils and Oil Bearing Materials		165,005	Wool 1943-44	<u>Pounds</u> 356,606	199,531
Sugar		339,955	Miscellaneous Programs 1943-44		25,925 3/
Wheat		178,231			
Miscellaneous		102,502			
Total Foreign Commodities		1,062,512	<u>α TOTAL</u>		<u>8,245,896</u>

1/ Amounts shown for tobacco and naval stores are face amounts only. For other commodities, amounts shown include expenditures for handling, storage and transportation.

2/ Consists principally of foodstuffs purchased in the United States for Lend-Lease operations or domestic distribution.

3/ Includes Ammonium Nitrate, Apple Freight Equalization, Castor Bean Seed and Equipment, Corn Ceiling Price Adjustment, Dairy Cattle Conservation, Dry Beans, Hay, Millfeed Price Support Programs, Requisitioned Corn and Soybean Seed.

C

Summary of Operations from October 17, 1933 through June 30, 1944

Total Loans Made	\$ 4,053,028,000	0
Total Purchases and Other Programs	<u>8,245,896,000</u>	
GRAND TOTAL	<u>\$12,298,924,000</u>	

TABLE III: INVENTORY OF COMMODITIES OWNED AS OF JUNE 30, 1944

- - - - I N T H O U S A N D S - - - -

Commodity	Quantity	Book Value 1/ <u>Dollars</u>
Cotton, bales	2,741	191,467
Cotton Linters, pounds	259,669	11,887
Dairy Products, pounds	40,166	14,016
Fats and Oils, short tons	127	31,339
Foreign Commodities:		
Sugar, short tons	2,860	136,348
Flax		275
Total Foreign Commodities		<u>136,623</u>
Hemp, short tons	236,289	20,716
Naval Stores, barrels	256	7,948
Oilseeds and Products, pounds	789,246	64,132
Potatoes, cwt.	3,162	7,244
Tobacco, pounds	163,852	87,347
Wheat, bushels	99,075	165,155
Wool, pounds	230,667	118,050
Miscellaneous Programs		<u>12,396 2/</u>
TOTAL		<u>868,320</u>

1/ Book values of commodities owned include all charges paid and accrued.

2/ Includes Alaska Spruce Logs, Ammonium Nitrate, Beans, Barley, Beans, Castor Beans and Equipment, Castor Beans 1943, Corn, Dairy Animals and Feed.

WAR FOOD ADMINISTRATION
COMMODITY CREDIT CORPORATION

TABLE IV: DISTRIBUTION OF LOAN PROGRAMS BY STATES ^{1/}
FOR FISCAL YEAR 1944 AND
SINCE ORGANIZATION

STATE AND DIVISION	FOR FISCAL YEAR 1944					CUMULATIVE FROM ORGANIZATION TO JUNE 30, 1944				
	Cotton	Corn	Wheat	Other	Total	Cotton	Corn	Wheat	Other	Total
	(1,000 dollars)	(1,000 dollars)	(1,000 dollars)	(1,000 dollars)	(1,000 dollars)	(1,000 dollars)	(1,000 dollars)	(1,000 dollars)	(1,000 dollars)	(1,000 dollars)
Maine	-	-	-	2,568	2,568	-	-	-	2,568	2,568
Massachusetts	-	-	-	60	60	-	-	-	60	60
Vermont	-	-	-	1	1	-	-	-	1	1
New Hampshire	-	-	-	34	34	-	-	-	34	34
Connecticut	-	-	-	62	62	-	-	-	62	62
New York	-	-	-	112	112	-	-	1,045	112	1,157
New Jersey	-	-	17	-	17	-	-	111	1	112
Rhode Island	-	-	-	102	102	-	-	-	102	102
Pennsylvania	-	-	172	50	222	-	-	1,950	77	2,027
North Atlantic	-	-	189	2,989	3,178	-	-	3,106	3,017	6,123
Ohio	-	17	81	58	156	-	2,603	17,380	321	20,304
Indiana	-	61	63	102	226	-	14,254	14,513	1,621	30,388
Illinois	-	746	172	177	1,095	3	161,329	34,328	33,668	229,528
Michigan	-	-	7	649	656	-	59	2,028	688	2,775
Wisconsin	-	-	-	157	157	-	159	4,237	748	4,744
East North Central	-	824	323	1,143	2,290	3	178,404	72,486	36,846	287,739
Minnesota	-	292	4,111	1,828	6,231	-	56,533	41,278	7,685	105,496
Iowa	-	4,041	308	230	4,579	-	331,534	8,636	2,353	342,523
Missouri	6,576	189	187	43	6,995	28,036	16,574	28,853	1,225	74,688
North Dakota	-	-	37,675	1,361	39,036	-	143	246,102	8,345	250,590
South Dakota	-	123	5,988	494	6,605	-	17,325	59,327	6,319	84,171
Nebraska	-	990	12,444	90	13,524	-	59,610	96,312	4,647	160,569
Kansas	-	32	30,257	61	30,350	-	5,133	268,698	785	274,616
West North Central	6,576	5,667	90,970	4,107	107,320	28,036	486,852	745,806	31,959	1,292,653
Delaware	-	-	241	4	245	-	1	1,469	239	1,709
Maryland	-	-	695	-	695	-	3	4,484	31	4,518
Virginia	23	-	53	4	80	2,402	1	1,305	3,664	7,372
West Virginia	-	-	-	-	-	-	-	96	-	96
North Carolina	8,747	-	1	-	8,748	41,114	12	141	1,886	43,453
South Carolina	18,122	-	-	-	18,122	73,210	-	4	-	73,214
Georgia	29,198	-	-	104	29,302	143,122	-	-	54,262	197,384
Florida	2	-	-	-	2	355	-	-	-	355
South Atlantic	56,092	-	990	112	57,194	260,503	17	7,499	60,082	328,101
Kentucky	-	11	70	-	81	-	399	3,469	10,727	14,595
Tennessee	11,998	-	108	18	12,124	70,441	-	2,100	9,636	82,177
Alabama	34,830	-	-	-	34,830	169,793	-	2	-	169,795
Mississippi	23,348	-	-	-	23,348	136,879	-	-	-	136,879
East South Central	70,176	11	178	18	70,383	373,113	399	5,571	20,363	399,446
Arkansas	36,983	-	4	-	36,987	173,230	-	16	-	173,246
Louisiana	13,331	-	-	-	13,331	66,698	-	-	-	66,698
Oklahoma	18,500	-	8,952	7	27,459	86,635	-	92,172	95	178,902
Texas	119,026	-	16,440	41	135,507	536,669	-	101,114	3,989	641,772
West South Central	187,840	-	25,396	48	213,284	963,232	-	193,302	4,084	1,060,618
Montana	-	-	14,565	542	15,107	-	-	115,207	1,187	116,394
Idaho	-	-	2,226	899	3,125	-	-	27,530	1,564	29,094
Wyoming	-	-	1,238	75	1,313	-	-	5,669	393	6,062
Colorado	-	-	5,427	51	5,478	-	37	29,122	555	29,714
New Mexico	3,928	-	830	2	4,760	14,790	-	5,635	479	20,904
Arizona	7,293	-	-	-	7,293	33,329	-	-	23	33,352
Utah	-	-	249	23	272	-	-	3,857	598	4,455
Nevada	-	-	-	-	-	-	-	2	-	2
Mountain	11,221	-	24,535	1,592	37,348	48,119	37	187,022	4,799	239,977
Washington	-	-	11,401	76	11,477	-	-	85,084	1,003	86,087
Oregon	-	-	7,500	124	7,624	-	-	46,750	703	47,453
California	10,401	-	470	2,104	12,975	72,852	-	5,041	22,097	99,900
Pacific	10,401	-	19,371	2,304	32,076	72,852	-	136,875	23,713	233,440
1933-34 Cotton Pool Loans	-	-	-	-	-	51,416	-	-	-	51,416
Tobacco Loans ^{2/}	-	-	-	-	-	-	-	-	7,622	7,622
Other Unallocated	-	-	-	5,058	5,058	115,616 ^{3/}	7,980 ^{4/}	12	22,285	145,893
United States	342,306	6,502	161,952	17,371	528,131	1,812,890	673,689	1,351,679	214,770	4,053,028

^{1/} Includes loans made directly by the Commodity Credit Corporation and guaranteed loans made by banks and other lending agencies. Renewals and extensions of loans previously made are excluded. These are face amounts only; storage advances are excluded.

As far as possible loans have been distributed according to the location of producers receiving the loans. Direct loans to cooperatives have been distributed according to the location of the association.

^{2/} Represents loans to tobacco exporters. Loans to tobacco cooperatives have been distributed by States.

^{3/} Includes the 1933 cotton loans of \$99,498,000 for which State data are not available.

^{4/} This amount was advanced to producers in the fall of 1938 when an estimated 14,000,000 bushels of 1937 corn were placed under loan. A distribution by State not available.

PENALTY MAIL

Section 2, Public Law 364, 78th Congress
(Allotment to Commodity Credit Corporation) 1/

	<u>Category 1</u>	<u>Category 2</u>	<u>Total</u>
1945	- -	\$26,085	\$26,085
1946	- -	30,000	30,000
Change	- -	+3,915	+3,915

1/ Amounts authorized for this purpose are transferred to the appropriation "Cost of handling penalty mail, Department of Agriculture" from Corporation funds authorized for administrative expenses of the Corporation.

In carrying out its functions of making loans on, and purchases and sales of, agricultural commodities, it is necessary for the Corporation to engage in a very considerable amount of correspondence with producers, banks, warehouses, and other agencies. The volume of correspondence is, to a very large extent, dependent on the volume of loans, purchases, sales or other transactions handled by the Corporation. Many of the factors affecting the volume of these transactions are beyond the control of the Corporation, since market conditions and prices will influence participation in CCC programs.

The extent to which the volume of correspondence is related to program activities can be illustrated by the following example: When it was determined to pool all 1942-crop cotton still under loan on August 15, 1944, it was necessary to notify all producers having an interest in the cotton. In this single operation over 800,000 postcards were placed in the mail at an approximate cost of \$12,000, which amounts to 46 percent of the total estimated cost of penalty mail for the Corporation for the 1945 fiscal year.

Category 2 consists of instructions to warehousemen, lending agencies, fiscal agents, cooperatives, processors, dealers and other agencies through which commodities are purchased, sold, stored, shipped, placed under loan or otherwise handled for the Corporation; announcements of programs and program details and reports on program activity; checks, drafts, bills of lading, loading orders, shipping orders, sales invoices, warehouse receipts and other commercial, financial and accounting papers and documents; and general correspondence with producers, carriers, cooperating agencies and other commercial and governmental agencies, and between offices of the Corporation in connection with its program activities.

The increase of \$3,915 for the fiscal year 1946 is required to meet mailing costs incident to an anticipated increase in the quantities of agricultural commodities to be handled by the Corporation. Higher loan rates and purchase prices, together with record 1944-crop production, are expected to result in larger quantities of farm commodities being owned by or under loan to the Corporation on July 1, 1945, than was the case a year earlier. In order to care for and dispose of these inventories, and carry out price support on the 1945 crops, a larger volume of transactions and consequently a higher volume of mail is anticipated.

AGRICULTURAL ADJUSTMENT AGENCY

(a) Conservation and Use of Agricultural Land Resources

Appropriation Act, 1945	\$302,500,000	
Budget estimate, 1946	<u>147,000,000</u>	(1)
Change for 1946:		
Overtime decrease	-1,118,145	
Other decrease	<u>-154,381,855</u>	
	<u>-155,500,000</u>	

(1) In addition to a direct appropriation of \$147,000,000 the estimates contemplate reappropriations and transfers in 1946 totaling \$143,000,000 as follows:

Transfer from "Exportation and Domestic Consumption of Agricultural Commodities, Department of Agriculture, 1946"	\$32,300,000
Reappropriation of 1943, 1944, and 1945 unobligated balances from "Exportation and Domestic Consumption of Agricultural Commodities, Department of Agriculture"	100,700,000
Reappropriation of unobligated balance from "Parity Payments, Department of Agriculture, 1943-1945"	10,000,000
Total	<u>143,000,000</u>

Recapitulation, Total Available Funds

Appropriation, 1945	\$302,500,000
Direct appropriation, 1946	147,000,000
Transfers and reappropriations, 1946	<u>143,000,000</u>
Total available funds, fiscal year 1946	<u>290,000,000</u>
Decrease, available funds, fiscal year 1946	<u>12,500,000</u>

The Agricultural Conservation Program is on a calendar year basis. The 1944 program closed on December 31, 1944, and the 1945 program, for which the estimate for 1946 is submitted, will close on December 31, 1945. The Congress authorized 1944 and 1945 programs of soil-building practices and soil- and water-conservation practices, the total cost of each of which may not exceed \$300,000,000. In the 1945 appropriation an additional \$12,500,000 was provided for making payments for harvesting seeds of grasses and legumes determined by the War Food Administrator to be necessary for an adequate supply of such seeds. In the First Supplemental Appropriation Act, 1945, the limitation on the 1944 program was increased from \$300,000,000 to \$313,000,000 (exclusive of \$12,500,000 for additional seed payments). The effect of the increases and decreases by projects in the estimate for 1946 is reflected in the statement on the next page.

PROJECT STATEMENT

Project	On a program basis			
	1943	1944	1945 a/	Increase or decrease
	(F. Y. 1944)	(F. Y. 1945)	(F. Y. 1946)	
Gross conservation payments to farmers	\$425,517,941	\$316,767,883	\$281,003,852	-\$35,764,031
Deduct expenses of county associations	-26,410,648	-16,300,000	-16,300,000	-
Net conservation payments to farmers	399,107,293	300,467,883	264,703,852	-35,764,031
Expenses of county associations	26,410,648	16,300,000	16,300,000	-
Administrative expenses, Agricultural Adjustment Agency	7,585,146	6,802,726	5,332,103	-1,470,623
Administrative expenses, cooperating agencies	68,720	29,097	29,097	-
Overtime costs	1,206,590	1,118,145	-	-1,118,145
Total expenses	35,271,104	24,249,968	21,661,200	-2,588,768
Allotments and transfers from program funds to other agencies:				
for program expenses incurred by them	1,239,054	782,149	634,948	-147,201
Total obligations, Agricultural Conservation Program	435,617,451	325,500,000	287,000,000	-38,500,000
Difference in amount used for advance purchases of conservation materials from prior fiscal year appropriation for current program, and amount to be used for advance purchase of conservation materials from current fiscal year appropriation for ensuing calendar year program	-6,823,974	-	-	-
Difference in amount used for county association expenses paid from prior fiscal year appropriation for current calendar year program, and amount to be used for county association expenses from current fiscal year appropriation for ensuing calendar year program	-8,899,798	-	-	-
Received by loans from Commodity Credit Corporation	-27,000,000	-33,000,000	-20,000,000	+13,000,000
Repayment of loans from Commodity Credit Corporation	+7,106,321	+10,000,000	+23,000,000	+13,000,000
Net obligations, appropriated funds	400,000,000	302,500,000	290,000,000	-12,500,000
Received by transfer from:				
"Parity Payments, Department of Agriculture"	-	-	-10,000,000	-
"Exportation and Domestic Consumption of Agricultural Commodities, Department of Agriculture"	-	-	-133,000,000	-
Total estimate or appropriation	400,000,000	302,500,000	147,000,000	-

a/ Note:--The 1945 program does not include expenses or payments to producers for encouraging increased production of flax for crop year 1945 authorized by section 5 of Public Law 551, 78th Congress, approved December 23 1944.

INCREASES OR DECREASES

The decrease in direct appropriation of \$155,500,000 in this item for the fiscal year 1946 is offset by transfers totaling \$143,000,000 from the appropriations provided for "Parity Payments, Department of Agriculture, 1943-1945" and by section 32 of the Act of August 24, 1935, resulting in a net decrease of \$12,500,000 in appropriated funds, as follows:

- (1) A decrease of \$12,500,000 in payments to farmers due to the elimination of the nonrecurring item provided in 1945 for making payments for harvesting seeds of grasses and legumes determined by the War Food Administrator to be necessary for an adequate supply of critically needed seeds. No provision was made for such payments in the authorization for the 1945 Agricultural Conservation Program.

PROGRAM YEAR CHANGES

As indicated in the above project statement there is a reduction of \$38,500,000 in the 1945 Agricultural Conservation Program as compared with the 1944 program, consisting of the following:

- (a) A net decrease of \$35,764,031 in conservation payments to farmers, composed of:

A decrease of \$12,500,000 for payments to farmers for harvesting seeds (as discussed above).

A decrease of \$26,000,000 due to the use of \$13,000,000 of 1945 program funds to provide for over participation in the 1944 program, as authorized by the First Supplemental Appropriation Act, 1945, thus increasing by \$13,000,000 funds available for the 1944 program and reducing by a corresponding amount the funds available for the 1945 program.

An increase of \$2,735,969 in conservation payments to farmers resulting from a decrease of \$2,588,768 in the amount made available for administrative expenses of the Agricultural Adjustment Agency and a decrease of \$147,201 in allotments and transfers to other agencies cooperating in the agricultural conservation program.

- (b) A decrease of \$2,588,768 in the amount made available for administrative expenses of the Agricultural Adjustment Agency.

This reduction consists of \$1,118,145 due to elimination from the 1946 estimate of the 1945 fiscal year overtime cost and \$1,470,623 which can be effected only by abolishing the 48 State offices and transferring statistical, fiscal, and other administrative functions to centrally located area offices. There would be retained in each State only the State committee and a small staff to perform necessary stenographic duties and administrative handling of conservation materials.

- (c) A decrease of \$147,201 in allotments and transfers from program funds to other agencies.

This results from the elimination of an allotment of \$50,000 to the Soil Conservation Service for furnishing conservation materials and services in connection with the 1944 Agricultural Conservation Program, and a reduction of \$97,201 in transfers to the Treasury Department and the General Accounting Office for services in issuing checks and preauditing payments to farmers.

[Note.--The decrease of \$1,470,623 explained under (b) on preceding page includes a decrease of \$1,332 for rental of office space in Portland, Oregon, now being paid from this item, but for which provision is made in 1946 in the Budget estimates for the Public Buildings Administration.]

CHANGES IN LANGUAGE

The estimates include proposed changes in language of this item as follows (new language underscored, deleted matter enclosed in brackets):

Change
No.

- 1 For all expenses necessary to enable the Secretary to carry into effect the provisions of sections 7 to 17, inclusive, of the Soil Conservation and Domestic Allotment Act, approved February 29, 1936, as amended (16 U.S.C. 590g-590q), and the provisions of the Agricultural Adjustment Act of 1938, as amended (7 U. S. C. 1281-1407) (except the provisions of sections 201, 202, 303, 381, and 383 and the provisions of titles IV and V), including personal services in the District of Columbia and elsewhere; not to exceed \$6,000 for the preparation and display of exhibits, including such displays at State, interstate, and international fairs within the United States; purchase of lawbooks, books of reference, periodicals
[.]; \$147,000,000, together with (1) \$10,000,000 of the unobligated balance of the appropriation "Parity Payments" in the Department of Agriculture Appropriation Act, 1944, (2) \$100,700,000 of the unobligated balances of the funds appropriated for the fiscal years 1943, 1944, and 1945 by section 32 of the Act of August 24, 1935, amending the Agricultural Adjustment Act, and (3) \$32,300,000 of the funds appropriated by said section 32 for 1946; in all \$290,000,000, to remain available until December 31, [1945] 1946, for compliance with programs under said provisions of the Agricultural Adjustment Act of 1938, as amended, and the Act of February 29, 1936, as amended, pursuant to the provisions of the [1944] 1945 programs carried out during the period July 1,
- 2 [1943] 1944 to December 31, [1944] 1945, inclusive [, and, in addition, \$12,500,000 for making additional payments on an acreage and pound basis for harvesting seeds of grasses and legumes determined by the War Food Administrator to be necessary for an adequate supply of such seeds]: Provided, [That, excepting the foregoing item of \$12,500,000, no part of said appropriation or any other appropriation in this Act shall be used for incentive or
- 3

Change
No.

- production adjustment payments except for soil-conservation and water-conservation payments and payment of acreage allotment commitments on commodities as defined in the Agricultural Adjustment Act of 1938, as amended, and as enumerated and set forth in the "1944 Agricultural Conservation Program" bulletin, dated February 9, 1944: Provided further,] That not to exceed
- 4 [\$24,250,000] \$21,661,200 of said amount shall be available until June 30, [1945] 1946, for salaries and other administrative expenses for carrying out such programs; but not more than
- 5 [\$7,917,360 of the \$8,667,360 provided in the schedule in the Budget hereunder for 1945 for transfer] \$5,332,103 shall be transferred to the appropriation account, "Administrative expenses, Agricultural Adjustment Agency" [, shall be so transferred]: Provided further, That none of the funds herein appropriated or made available for the functions assigned to the Agricultural Adjustment Agency pursuant to Executive Order (No. 9069) of February 23, 1942, shall be used to pay the salaries or expenses of any regional information employees, or any State or county information employees, but this shall not preclude the answering of inquiries or supplying of information to individual farmers: Provided further, That such amount shall be available for salaries and other administrative expenses in connection with the formulation and administration of the [1945] 1946 programs of soil-building practices, and soil- and water-conservation practices, under the Act of February 29, 1936, as amended, and programs under the Agricultural Adjustment Act of 1938, as amended, the
- 6 total expenditures of which, including administration, shall not exceed [\$300,000,000, including the value of seeds, fertilizers, and other conservation materials remaining on hand at the close of the 1944 program and to be used as grants under the 1945 program] \$200,000,000; but the payments or grants under such program shall be conditioned upon the utilization of land with respect to which such payments or grants are to be made, in conformity with farming practices which will encourage and provide for soil-building and soil- and water-conserving practices in the most practical and effective manner and adapted to conditions in the several States, as determined and approved by the State Committee of the Agricultural Adjustment Agency for the respective States: Provided further, That no part of such amounts shall be available after June 30, [1945] 1946, for salaries and other administrative expenses except for payment of obligations therefor incurred prior to July 1, [1945] 1946: Provided further, That the Secretary may, in his discretion, from time to time transfer to the General Accounting Office such sums as may be necessary to pay administrative expenses of the General Accounting Office in auditing payments under this item: Provided further, That such
- 7 amount shall not be available for the purchase of [seeds, fertilizers, lime, trees, or any other farming materials, or any soil-terracing services, and making grants thereof to agricultural producers to aid them in carrying out farming practices approved

Change

No.

by the Secretary in the 1944, 1945, and 1946 programs] farming materials and soil-conserving or soil-building services beyond the 1946 program under said Act of February 29, 1936, as amended [; for the reimbursement of any Federal, State, or local government agency for such materials, or services; and for the payment of all expenses necessary in making such grants, including all or part of

8 the costs incident to the delivery thereof: Provided further, That notwithstanding any other provision of law, persons who in 1944 carry out farming operations as tenants or sharecroppers on cropland owned by the United States Government and who comply with the terms and conditions of the 1944 Agricultural Conservation Program, formulated pursuant to sections 7 to 17, inclusive, of said Act of February 29, 1936, shall be entitled to apply for and receive payments for their participation in said program to

9 the same extent as other producers: Provided further, That the War Food Administrator is authorized and directed to make payments on Irish potatoes and commercial truck crops for fresh consumption under the 1943 Agricultural Conservation Program with respect to any farm if the War Food Administration determines that the producer would have been eligible for such payments except for the failure of such producer, because of negligence of an officer or agent of the Federal Government to file on or before June 30, 1943, Form ACP-140, and such payments shall be made out of funds appropriated for the purposes of section 32 of the Act entitled "An Act to amend the Agricultural Adjustment Act, and for other purposes", approved August 24, 1935 (49 Stat. 774)]: Provided further, That no part of any funds available to the Department of Agriculture, the War Food Administration, or any bureau, office, corporation or other agency constituting a part of such Department or Administration shall be used in the fiscal year [1945] 1946 for the payment of salary or travel expenses of any person who has been convicted of violating the Act entitled "An Act to prevent pernicious political activities", approved August 2, 1939, as amended, or who has been found in accordance with the provisions of section 6 of the Act of July 11, 1919 (48 U.S.C. 201), to have violated or attempted to violate such section which prohibits the use of Federal appropriations for the payment of personal services or other expenses designed to influence in any manner a Member of Congress to favor or oppose any legislation or appropriation by Congress except upon request of any Member or through the proper official channels: Provided further, That none of the funds appropriated in this Act for the War Food Administration or any of its constituent agencies shall be paid out for the salary, per diem allowance, or expenses of any person after it is determined by the War Food Administrator that such person has, personally or by letter, demanded that a farmer join the triple A program as a condition of draft deferment or for the granting of a priority certificate for any rationed article or commodity. Hearings on charges filed with the War Food Administrator shall be held and decision made within thirty days after such charges are filed with him.

Other than the usual changes in year dates applicable to the programs covered by the appropriation and the period of availability thereof, the estimates include proposed changes in the language of this item as follows:

Change No. 1 inserts before the amount of \$290,000,000, the following:

"\$147,000,000, together with (1) \$10,000,000 of the unobligated balance of the appropriation "Parity Payments" in the Department of Agriculture Appropriation Act, 1944, (2) \$100,700,000 of the unobligated balances of the funds appropriated for the fiscal years 1943, 1944, and 1945 by section 32 of the Act of August 24, 1935, amending the Agricultural Adjustment Act, and (3) \$32,300,000 of the funds appropriated by said section 32 for 1946; in all

* * *"

The new language provides authority for the reappropriation or transfer of funds totaling \$143,000,000 in 1946 which, with the direct appropriation of \$147,000,000, will provide a total of \$290,000,000 under this item.

Change No. 2 deletes the language appropriating an additional \$12,500,000 for making additional payments on an acreage and pound basis for harvesting seeds of grasses and legumes determined by the War Food Administrator to be necessary for an adequate supply of such seeds. This is a nonrecurring item in the 1944 program, and no authorization is provided for such additional payments in the 1945 program.

Change No. 3 eliminates the proviso that no part of this appropriation or any other appropriation in the Department of Agriculture Appropriation Act shall be used for incentive or production adjustment payments, except for harvesting seeds and for soil-conservation and water-conservation payments and payment of acreage allotment commitments on commodities as defined in the Agricultural Adjustment Act of 1938, as amended, and as enumerated and set forth in the 1944 Agricultural Conservation Program Bulletin.

The Department of Agriculture Appropriation Act, 1945, authorizes a 1945 conservation program under the Act of February 29, 1936, as amended, which is limited to soil-building practices and soil- and water-conservation practices. In keeping with this authorization, the 1945 agricultural conservation program contains no provision for incentive or production adjustment payments of the kind prohibited by the language deleted. The 1943 Agricultural Conservation Program was the last program under which such payments were made. Therefore, this proviso is unnecessary.

Change No. 4 deletes "\$24,250,000" and substitutes therefor "\$21,661,200" as the amount of the appropriation which may be used for administrative expenses, including expenses of county agricultural conservation associations.

Change No. 5 deletes "\$7,917,360" and inserts "\$5,332,103" as the maximum amount which shall be transferred to the appropriation account "Administrative expenses, Agricultural Adjustment Agency" for administrative expenses in carrying out the programs formulated under sections 7 to 17, inclusive, of the Act of February 29, 1936, as amended, and the Agricultural Adjustment Act of 1938, as amended.

Change No. 6 deletes the words "\$300,000,000, including the value of seeds, fertilizers, and other conservation materials remaining on hand at the close of the 1944 program and to be used as grants under the 1945 program", and substitutes therefor "\$200,000,000".

This limits the total expenditures, including administration, to be incurred in connection with the 1946 programs to \$200,000,000. When the language providing that total expenditures in connection with the 1945 program should include the value of conservation materials on hand as of December 31, 1944, was inserted in the 1945 appropriation bill there was no language in the bill authorizing the use of the 1945 fiscal year appropriation for the purchase of conservation materials and services in connection with the 1945 program. Therefore, any materials remaining on hand as of December 31, 1944, would have been declared surplus and sold. Authority for advance purchases of materials and services for use in subsequent programs under the Act of February 29, 1936, as amended, is now contained in the Department of Agriculture organic Act of 1944 and any conservation materials on hand at the close of any program may be used in connection with the next program and the value thereof included as an expense under that program. The retention of the language is therefore unnecessary.

Change No. 7 limits the authority for advance purchases of conservation materials and services for use in connection with programs under the Act of February 29, 1936, as amended, now contained in the Department of Agriculture Organic Act of 1944, to the 1946 program.

Change No. 8 deletes the language dealing with payments to persons who carry out farming operations as tenants or sharecroppers on crop land owned by the Federal Government. This provision is now contained in section 301(b) of the Department of Agriculture Organic Act of 1944, approved September 21, 1944 (Public Law 425).

Change No. 9 deletes the language authorizing and directing payments to be made on Irish potatoes and commercial truck crops under the 1943 Agricultural Conservation Program with respect to any farm if it is determined that the producer would have been eligible for such payment except for failure of the producer because of negligence of an officer or agent of the Government to file on or before June 30, 1943, Form ACP-140. Since this is a nonrecurring item and all payments will be made in the fiscal year 1945, the retention of this language is unnecessary.

WORK UNDER THIS APPROPRIATION

Objective: To carry out the policy of the Congress as set forth in the Agricultural Adjustment Act of 1938, as amended, and the Soil Conservation and Domestic Allotment Act, as amended, by making assistance available to all farmers in the United States to enable them to produce agricultural commodities sufficient to supply the nation's requirements for food and fiber; more specifically to extend practical assistance to farmers in their efforts to:

1. Conserve and restore, in the national public interest, the nation's farm and ranch land resources through farming practices which control soil erosion, maintain and improve soil productivity, conserve water for agricultural use and restore minerals to crop lands and pastures.
2. Make the best use of farm and ranch resources by adjusting production of major agricultural commodities to meet military and civilian requirements and to guarantee an adequate supply of food and fiber at prices that are fair to both producer and consumer.
3. Provide through elected farmer committees a means by which needed adjustments in the nation's agriculture can be made in the least possible time and with the most practical operation and administration.
4. Provide facilities for promoting an orderly marketing of farm commodities by producers.
5. Raise the living level of farm families by aiding them to produce more and better food for farm home consumption.

The Problem and its Significance: Our early land policies encouraged exploitation. The fertility of the soil - the lifeblood of the farmer's livelihood and the nation's security, was siphoned off annually as food, feed, and fiber. As the fertility of the soil was exhausted, operators moved to new land. The migration of farmers led to mining rather than farming the soil and many of the products went to establish foreign credit, to build our cities and towns, and factories and businesses.

During and immediately following the first world war, farmers increased production to meet wartime demands and to take advantage of high prices. When the export market for farm products dried up, protective tariffs, together with other industrial devices kept prices of manufactured goods high while the price and buying power of farm products became progressively lower. The farmers, in an effort to overcome the disadvantage of low income, further increased production of soil-depleting crops and disregarded soil-conserving practices with the result that millions of acres, not suitable for cultivation, were seriously damaged by erosion.

During the present war the record volume of agricultural commodities which the farmers have been called upon to produce involves the risk of further depleting soil fertility and increasing the hazards of erosion. The increased use of improved farming practices during recent years through the encouragement and assistance given by Agricultural Adjustment Agency programs and the efforts of educational and other public agencies has made this problem less serious than during the first world war. But soil productivity has declined where added attention has not been given to tillage practices and where increases in cultivated crops have not been accompanied by increased legume growing and increased use of fertilizers and lime.

Total agricultural production in 1944 is estimated at one-third higher than the average of the years 1935-1939. A careful appraisal indicates that 7 to 9 percentage points in this 33 percent increase is due to the greater use of lime and fertilizer and other conservation practices. Further increases can be made as farmers are induced to perform more conservation farming.

According to recent data developed by the War Food Administration based on reports from State Agricultural Experiment Stations the total annual need for limestone is 50,183,833 tons. This annual need is based on the assumption that one-tenth of the soils now needing lime will be treated during each of the next ten years. Since usually the average application of lime will last about ten years this means that even if this large tonnage is applied in each of the ten years immediately ahead the process will have to be continued if a good sound system of conservation farming is to be maintained. The liming problem is one that must be met from this time forward. To meet the needs in the period following the ten-year period will require nearly as much lime annually as is required at present. The soils in some areas will not need quite as much lime for the second application but there are some soils that do not need lime now that will be in need of lime by the time the soils now being limed need their second application. Other surveys indicate that several million acres of land unsuited to cultivation should be shifted to grazing or woodland, 100 million acres should be terraced to prevent erosion and conserve water, 40 million acres need improved or new drainage, 165 million acres should be contour cultivated annually, 90 million acres should be stripcropped, 15 million acres of summerfallow need to be protected from wind and water erosion by proper tillage practices, 33 million acres of cover crops and 55 million acres of green manure crops are needed annually, 100 million acres of farm woodland need improvement, several million acres of perennial noxious weeds must be eradicated and controlled, 10 million acres need repair or improvement of farm irrigation systems, 7 million acres should be put in permanent water courses and outlets, 560,000 stock water ponds and reservoirs must be built, and 130 million acres of pasture and range need reseeding, fertilizing and liming. Much of this land requires practices to increase water absorption, and 400 million acres of grazing land should have improved management, including proper stocking, and deferred or limited grazing.

Another phase of agricultural production and soil- and water-conservation is the problem of improving the quality of human food and of livestock feed. High quality crops and livestock come from soils of high and well balanced fertility. Leading scientists are beginning to appreciate more fully the role that soil fertility plays in determining the nutritive quality of foods. Records of Selective Service Boards in various parts of the country show a higher percentage of rejections for military service of draftees from areas where soils have low and unbalanced mineral content. This emphasizes the importance to the nation of that part of the Agricultural Adjustment Agency program which assists farmers to use additional lime, superphosphate and other fertilizers where needed. It is also important that the naturally fertile soils of the country be protected against mismanagement and misuse.

Almost every year large sums of money are appropriated to alleviate the effect of disastrous floods or to clear channels in rivers and streams which have become clogged with soil washed from the nation's farms. The widespread application of soil conservation practices such as terracing, contour farming, stripcropping, planting cover crops, planting forest trees, and establishing and maintaining good stands of grasses and other sod crops on pasture and range land on a sufficient number of farms would reduce the need for these appropriations. Responsibility for the conservation of our soil goes beyond individual ownership. Conservation of soil and water resources and of range and forest resources is a national problem. All citizens in the nation have a vital interest in and a responsibility for developing a conservation program that will result in protecting these resources which are so vital to the welfare of the country.

Since the benefit to farmers from soil conservation is much more direct than to others, it appears logical at first thought that farmers should and would carry out all of the needed conservation measures at their own expense and of their own accord. There are many reasons, however, why farmers do not practice conservation farming aside from the fact that many of them still are unacquainted with conservation practices. Many farmers are tenants and cannot afford to carry out long-term practices. They hesitate because the financial benefits are delayed a year or more after the practices are carried out. Many of the practices give their best results after a period of years with the benefits accruing more to succeeding operators and future generations and to society as a whole than to the individual carrying them out. Many farmers are old and are not particularly interested in conservation and, therefore, mine land rather than farm the soil in their declining years. Others cannot afford to purchase materials and equipment or bear the expense of carrying out conservation practices after paying their bills and their taxes. Assistance offered by the Agricultural Adjustment Agency program provides a powerful incentive for carrying out conservation measures and helps to assure the next operator and society that this part of the public resources is kept in a highly productive state.

In many instances farmers who have not experienced the benefits derived from conservation measures are not convinced that the additional income will be sufficient to justify the expenditure. Farm income as a general rule is lowest on those farms on which conservation practices are needed the most and these farmers lack sufficient income and equipment to carry out those practices. When farmers must use all of their current income for operating the farm and for living expenses, they have no money to spend to conserve soil. Therefore the whole nation must make the investment.

Research, education, and technical assistance are indispensable to a successful conservation program but are not sufficient within themselves. Knowledge of the facts alone will not result in widespread adoption of needed conservation measures. The record shows that adoption of conservation practices has been greatly accelerated by the offer of assistance to farmers from the Agricultural Adjustment Agency program.

General Plan: To accomplish the major intent of Congress in establishing an agricultural conservation program with practice payments to assist farmers in maintaining and restoring the nation's most vital resource - soil - the focal point of the program is the individual county programs. These are developed by the elected county and community committeemen with the assistance of the Agricultural Adjustment Agency State Committee and representatives of other agencies. Within the broad framework of the national program and of the funds available, these elected farmer committeemen develop a program designed to maintain the greatest progress possible in meeting the most critical local conservation problems.

The approved list of practices in the 1945 program are those practices which will:

1. Maintain or increase soil fertility, or
2. Control and prevent soil erosion caused by wind or water, or
3. Encourage conservation and better agricultural use of water, or
4. Conserve and increase range and pasture forage.

Practices are applied according to technical standards found to be adequate to give satisfactory results and developed with research specialists that have made a careful study of the practices.

While the regional and State offices must of necessity exercise supervisory authority over the county programs to maintain uniformity, compliance with the provisions of the law, and to assure maximum returns to the nation from the money expended, their major functions are in effect as service agencies to the county offices which assist the individual farmer.

The agricultural conservation program is designed to obtain the most widespread application of improved conservation practices on the greatest number of farms and ranches possible with the funds available.

Financial assistance is given to farmers for carrying out the most needed soil conserving practices which would not otherwise be carried out. Great care must be exercised to keep the assistance offered through payments for different practices comparable on the basis of their actual cost and importance. Payments cover only a part of the cost of the practices. The 1945 program includes the most urgently needed practices which are adapted to local areas. The most important practices by areas of the country are:

- | | |
|----------------------------------|--|
| Corn Belt: | Contour cultivation, stripcropping, liming, application of superphosphate, green manure crops, pasture improvement, forest tree planting. |
| East Central: | Liming, application of superphosphate, winter cover crops. |
| Great Plains: | Improved tillage practices for water conservation and control of soil blowing, noxious weed control, improved pasture and range management and reseeding. |
| Northeast: | Application of superphosphate, terracing, permanent pastures, liming. |
| Range Area: | Development and conservation of water on grazing land, grazing management, reseeding. |
| Intermountain and Pacific Coast: | Cover and green manure crops, phosphate and liming, protected fallow and trashy tillage, weed control, renovation of perennial grasses and legumes, better irrigation practices. |
| South: | Cover and green manure crops, terracing, drainage, application of minerals, establishment of permanent cover and vegetative waterways. |

In order to stimulate participation in practices involving the use of materials, the Agricultural Adjustment Agency advances to farmers superphosphate, limestone, cover crop seeds, and other conservation materials for use in carrying out practices. Recovery for these advances is made through deductions from payments earned in carrying out the practices. Such advances are limited to the estimated amount of payments to be earned on the farm for the year.

Emphasis is being placed upon the use of purchase orders for the procurement of these conservation materials. This method of purchase, authorized by Congress, permits the participation of retail distributors in the program. By using established channels of trade in this manner, the assistance of producers and distributors in promoting the conservation program is assured. At the same time, since purchase orders stipulate fair prices, farmers are protected against unreasonable charges.

Within the limitation of the funds authorized the assistance offered to individual farmers will continue to be determined by factors of need for the conservation practices on the land as contrasted to programs of earlier years where the limit of assistance on a farm was based to a greater extent on the acreage of cropland on the farm and the acreage of pasture or range land. Committeemen will help farmers plan their conservation work and will assist them in meeting problems encountered with practices and specifications.

During 1945 marketing quotas will be in effect on only two types of tobacco, burley and flue-cured, pursuant to the provisions of Public Law No. 276, 78th Congress, approved March 31, 1944. County committees will be responsible for administering the provisions of the 1945 marketing quota program. This includes (1) establishing farm acreage allotments and normal yields for individual farms and reviewing the acreage reports for each farm, (2) estimating the production on each farm if the acreage harvested is in excess of the allotted acreage, (3) issuing to the operator of each farm having flue-cured or burley tobacco available for marketing, a card to be used in identifying the tobacco sold from the farm.

Agricultural Adjustment Agency committeemen have a major responsibility in connection with helping the farmers of the nation achieve agricultural production goals for 1945.

Agricultural production goals are suggested extents to which the national farm products should be produced in a given area, based upon our food and feed requirements and upon the productive capacity of the area including the shifting of labor, machinery, and other facilities. They are based on such facts as production possibilities of our national farm plant and our probable needs for armed forces, civilians, allies, and war relief. In determining such needs the War Food Administration cooperates with other Government agencies.

National goals are apportioned to the States on the basis of recommendations made by Agricultural Adjustment Agency State committees and representatives of other Federal and State agricultural agencies taking into consideration capacity within each State for producing each commodity. Likewise, State goals are apportioned to counties on a similar basis. County goals serve as a guide to farmers in determining their share of the total needs for each commodity.

Each farm operator who will be contacted by his local committeeman is given an opportunity to record his production intentions for 1945 on a farm plan sheet. The committeemen will discuss the 1945 needs for those products that can be produced on the operator's farm and suggest increases that can be made in the production of various needed commodities, but it will be left to the operator to determine his share of the production of each commodity in keeping with experience and productive facilities.

One of the principal means by which the Agricultural Adjustment Agency assists farmers in reaching their production goals is by helping them carry out conservation practices. For instance, livestock farmers are assisted in establishing, improving and maintaining pastures, developing water supplies for livestock, and carrying out such conservation measures as will increase the yield per acre of grain or hay crops. Lime, phosphate, terrace construction and pond development may be advanced as conservation materials and services by the Agricultural Adjustment Agency. The producer of practically every farm product is offered assistance in carrying out conservation practices that will increase efficiency of production as well as total production.

The following tables show the preliminary crop and livestock goals for 1945 compared with acreage and production data for previous years:

CROP GOALS: 1945 Acreage with Comparisons

Commodity	Planted Acreage (Thousands)		% 1945 Goal is of	
	1935-39:	1944	1945	1935-39: 1944
	Average:	Indicated:	Goal	Average: Indicated
<u>Food and fiber crops:</u>	:	:	:	:
Wheat	73,235:	66,705:	67,640:	92: 101
Rye 1/.....	3,699:	2,325:	2,515:	68: 108
Rice	1,007:	1,490:	1,400:	139: 94
Dry beans	1,917:	2,340:	2,340:	122: 100
Dry peas	281:	746:	457:	163: 61
Soybeans for beans 1/.....	3,042:	10,688:	10,688:	351: 100
Flaxseed	1,938:	3,285:	5,000:	258: 152
Peanuts, grown alone	2,173:	4,169:	4,000:	184: 96
Peanuts, picked and threshed 1/.....	- -:	(3,434):	(3,300):	- -: 96
Cotton	28,496:	20,472:	20,472:	72: 100
Broomcorn	317:	372:	370:	117: 99
Sugar beets	892:	646:	951:	107: 147
Sugar cane (except sirup)1/:	287:	304:	337:	117: 111
Potatoes	3,123:	3,084:	3,100:	99: 101
Sweetpotatoes	804:	829:	829:	103: 100
Truck crops: Fresh 1/ ...	1,745:	1,852:	1,683:	96: 91
Processing .	1,383:	2,086:	2,010:	145: 96
Tobacco: 1/ Flue-cured .	981:	989:	1,023:	104: 103
Burley	371:	470:	480:	129: 102
Other domes- tic	292:	227:	264:	90: 116
Subtotal, food and fibers	125,983:	123,079:	125,559:	100: 102
<u>Feed crops:</u>	:	:	:	:
Corn	97,055:	99,606:	99,606:	103: 100
Oats	40,586:	44,023:	44,023:	108: 100
Barley	13,364:	14,483:	14,483:	108: 100
All sorghums (except sirup):	15,029:	17,752:	16,740:	111: 94
Subtotal, feed crops	166,034:	175,864:	174,852:	105: 99
Total, cultivated crops	292,017:	298,943:	300,411:	103: 100
<u>Hay and hay seeds: 1/</u>	:	:	:	:
All tame hay	55,770:	60,427:	62,838:	113: 104
Hay seeds, legume 2/.....	2,735:	4,394:	4,746:	174: 108
Cover crop seeds 3/	120:	340:	469:	391: 138
Subtotal, hay and hay seeds:	58,625:	65,161:	68,053:	116: 104
GRAND TOTAL, Crop acreage 4/:	347,907:	359,710:	363,718:	105: 101

1/ Harvested.

2/ Includes alfalfa, red, alsike, sweet and ladino clover, and lespedeza.

3/ Includes hairy vetch, common and Wilamette vetch, Austrian winter peas, crimson clover, common ryegrass.

4/ Excluding hay seeds.

LIVESTOCK GOALS: 1945 Numbers and Production, with Comparisons

Commodity	1935-39	1944	1945	% 1945 Goal is of	
	Average	Indicated	Goal	1935-39	1944
	1,000	1,000	1,000	Average	Indicated
Livestock and Livestock Products:					
Milk cows on farms (average for year)	23,548	26,112	26,347	112	101
Hens and pullets on farms (January 1)	364,400	515,000	420,000	115	82
Chickens raised	664,400	745,800	700,000	105	94
Broilers, commercial	69,700	213,000	213,000	306	100
Turkeys raised	27,000	35,666	35,666	132	100
Pigs saved: spring	41,872	55,925	57,000	136	102
fall	26,767	32,000	33,000	123	103
Beef cattle on farms (first of year)	31,400	41,300	39,200	125	95
Beef cattle on farms (end of year)	32,000	39,200	36,900	115	94
Cattle and calf slaughter	24,600	33,900	35,000	142	103
Sheep and lambs on farms (January 1)	51,462	51,718	50,000	97	97
Milk production on farms (000 lbs.)	103,624	118,200	120,000	116	102
Egg production on farms (000 doz.)	3,032	4,676	3,920	129	84

1/ Ten-year (1933-42) average pigs per litter used to compute number of pigs saved fall of 1944.

2/ Number expected January 1, 1945.

The 1945 program, as in the case of previous programs, will be administered in the communities, counties, and States by farmer committeemen. As provided in the Agricultural Adjustment Act of 1938, as amended, community committeemen are elected by farmers in each community to help their neighbors in the development and administration of their program. At the same election a delegate to the county convention is elected by farmers from members of their own group. The delegates from the various communities throughout the country convene and elect their county committee. The responsibilities and effectiveness of these committeemen have increased steadily as they have gained administrative experience. Larger and more difficult tasks have been undertaken and successfully accomplished from year to year.

Community, county, and State committees have proved useful and effective in getting practical farmer thinking incorporated into the development and administration of the program. A farm program can be more successful as it represents the sound thinking of practical farmers.

The committeemen provide the leadership and a channel through which the needs, experience and knowledge of farmers and agricultural leaders flow to formulate an effective farm program.

To increase the effectiveness of committeemen in serving the farmers they represent, further assistance in understanding the program provisions and purposes will be given them, thereby stimulating their further interest in the program. In doing this, the assistance of county agricultural agencies and organizations are utilized to the fullest extent possible.

Local facilities available for carrying out conservation measures have been organized to increase conservation by better use of equipment now on hand and the new equipment that becomes available. Lack of suitable equipment for carrying out conservation measures has been one of the retarding factors of meeting conservation needs in many sections of the country. Committeemen, with the assistance of other agricultural agencies will help farmers who need conservation practices but lack the equipment to make working agreements with other local people who have the equipment. Often the necessary equipment for carrying out conservation measures, such as terracing, is available on farms within the community, but has been used only part time or for other purposes. Whenever it is found that this situation exists, committeemen will endeavor to get this equipment used in doing conservation work on neighboring farms during slack periods.

Progress and Current Programs: The 1944 agricultural conservation program was the first program in which the only payments to farmers were for conservation practices. Marketing quotas were in effect on only two crops, burley and flue-cured tobacco. These marketing quotas prevented expansion of these crops at the expense of food and feed crops. At the same time, production of these two types of tobacco exceeded the amounts used during the year in the manufacturing of tobacco products. Every effort was made to reach a high level of production of agricultural commodities needed in the prosecution of the war.

There has been a great increase in the volume of conservation practices carried out on farm and range land since the Agricultural Adjustment Agency first offered assistance in conservation programs in 1936 to the more than 6,000,000 farmers of the country. It has been estimated that 4,530,000 farmers have received payments, materials or services through the Agricultural Adjustment Agency for performing conservation practices on their farms.

The table below gives a comparison of some of the program practices carried out under the program in 1936 and 1943:

Practice	Unit	1936	1943
Application of materials:			
Ground limestone (or equivalent)	Acre	2,210,211	11,182,294
	Tons	3,620,000	19,030,163
20% superphosphate (or equivalent)	Acre	1,010,906	17,062,290
	Tons	121,000	1,872,780
Green manure and cover crops ...	Acre	5,773,366	25,320,871
New seedings of grasses and legumes	Acre	30,297,051	1/2,634,195
Erosion control and pasture improvement:			
Terracing	Acre	728,591	1,088,581
Contour listing or furrowing .	Acre	1,292,776	9,810,957
Protecting summerfallow	Acre	3,584,913	10,670,187
Contour farming intertilled crops and contour seeding			
small-grain crops	Acre	- -	14,601,038
Stripcropping and strip fallowing	Acre	- -	7,047,350
Reseeding of pastures or rangeland:			
Natural (by deferred grazing) ..	Acre	36,847	8,333,542
Grazing management	Acre	- -	81,192,039
Artificial reseeding	1,000 lbs. seed	- -	15,619

1/ Payments for seeding of clover, alfalfa and common grasses were discontinued.

As farm income has improved in recent years farmers in spite of wartime handicaps, have been more anxious to participate in the program because they are better able to pay their portion of the cost of carrying out the practices. This has caused the incurring of obligations above the funds budgeted in a number of States under the 1944 program. In the 1945 program the payments for many practices represent a lower percentage of the total cost and it is expected that a greater volume of practices will be encouraged with the same amount of funds.

The effectiveness of the assistance offered farmers through the Agricultural Adjustment Agency practice program is illustrated in a statement made by a leader in educational work in Vermont:

"For about a generation the Vermont Agricultural Extension Service has been demonstrating and teaching the value of lime and superphosphate when added to the soil as a means of increasing production of dairy feed crops. After about thirty years of such teaching, Vermont farmers were using relatively small amounts of these materials, the tonnage of lime per year still being under 10,000. Since the inauguration of the Agricultural Adjustment Agency, farmers of Vermont have increased the use of lime and superphosphate greatly. Over 100,000 tons of lime have been distributed to Vermont farmers in connection with the 1944 agricultural conservation program, and since the starting of this program, the use of superphosphate has multiplied many times. This increased use of these materials has not only been an important factor in production of feed crops during the past few years when increased production was badly needed but it demonstrated the fact that something in addition to education is needed in order to bring about change in certain practices which calls for an outlay of a considerable amount of money and development of new or enlarged trade channels."

In every State there are illustrations of the increase in volume of practices carried out under the Agricultural Adjustment Agency program since it has been in operation. For example, in the 1938 program 182,668 tons of agricultural limestone were applied under the program in Wisconsin and in 1943 the volume of this practice was 1,221,073 tons; in Missouri the 1940 program accomplished 4,247,234 cubic yards of earth moved in the construction of dams and reservoirs while in the 1943 program 8,065,470 cubic yards of earth were moved in dam and reservoir construction; in Nebraska in 1938 there were 17,842 acres of intertilled crops farmed on the contour and in 1943 this practice had increased to 477,849 acres; in South Carolina in 1938 there were 5,496 tons of limestone applied and in 1944 it is estimated that 550,000 tons were applied; also, in this State in 1938 there were 13,658,000 linear feet of terracing constructed and in 1944 through special emphasis and use of the purchase order plan it is estimated that 37,000,000 linear feet were constructed. There are similar examples from all States.

Persons of other agencies including federal, State, and local organizations interested in promoting better farming and increased soil- and water-conservation have said that the offer of assistance to every individual farmer which is extended through the Agricultural Adjustment

Agency program is a large influence in helping them get the farmers with whom they are working to adopt needed conservation practices.

In formulating the 1944 agricultural conservation program wider latitude than ever before was given State, county, and community committeemen. These committeemen were recognized as being in a better position than any other group to determine those practices most vital to obtaining maximum production in their State and county. Agricultural Adjustment Agency committeemen in each State, therefore, participated fully and effectively in developing State practice programs, explaining provisions of the programs to individual farmers and in assisting them in planning conservation practices for their farms.

There have been some very important shifts in agricultural production during the war in order to meet changing requirements. The acreage of soybeans harvested for beans in 1944 is more than three times the 1935-1939 average. The total number of animal units on farms in 1944 (excluding horses and mules) is nearly one-third higher than the average for 1935-1939. In the South the acreage of peanuts picked and threshed has nearly doubled.

Untiring efforts of county and community committeemen of the Agricultural Adjustment Agency to encourage production of needed crops on available farm land and application of conservation measures designed to bring about immediate increases in production through greater per acre yields, played an important part in the far-reaching and successful program for maximum production. The record farm production in 1944 is evidence of the success of the program.

The record production was attained despite handicaps such as shortage of labor, machinery, transportation, and other necessities of production and, in some instances, unfavorable weather conditions. For this reason the increases realized in production reflect more nearly the increases in per acre yields attained through improved farming methods, including wide usage of conservation practices promoted under the Agricultural Adjustment Agency's farm program, rather than additional acreage cultivation.

On a national basis, per acre yields of major farm crops for the years 1933-1943 were 8.8% above the yields in the decade before the farm program, 1923-1932. However, the Agricultural Conservation Program did not become fully effective until 1937 and in the six years, 1937-1942, per acre yield of major crops was 24% above the 1923-1932 average.

The record farm production in 1944 was due in a large degree to the carrying out of conservation practices. Tables showing the 1944 average production of certain crops, and livestock and livestock production as compared with the acreage and production of previous years, are set forth on the following page:

Acres and Production of Specified Crops 1/

1932-41 Average and 1944

Crop	Acres Harvested			Production		
	For 1944 as:			Average :: Prelim- : 1944 as		
	Average	Harvest	percent	Unit	Average	inary : percent
	1932-41	1944	of 1932		1932-41	1944 : of 1932-
			41 Avg.			41 Avg.
	1,000	1,000	Percent		1,000	1,000 : Percent
Corn	94,511	97,519	103.2	Bu.	2,349,267	3,258,378 : 138.7
Wheat, all	54,572	60,884	111.6	Bu.	738,412	1,108,881 : 150.2
Oats	35,979	39,664	110.2	Bu.	1,018,783	1,192,254 : 117.0
Barley	11,120	12,668	113.9	Bu.	243,373	287,091 : 118.0
Flaxseed	1,804	3,079	170.7	Bu.	14,226	25,213 : 177.2
Rice	978	1,477	151.0	Bu.	47,334	70,441 : 148.8
Cotton	27,718	20,164	72.7	Bales	12,474	12,320 : 98.8
Hay, All tame ..	56,649	60,427	106.7	Tons	73,277	84,142 : 114.8
Dry Beans	1,706	2,162	126.7	Bags	14,325	16,908 : 118.0
Dry Peas	238	716	300.8	Bags	2,617	8,915 : 340.6
Soybeans, for beans	2,948	10,688	362.6	Bu.	51,571	193,900 : 376.0
Peanuts 2/	1,648	3,434	208.4	Lbs.	1,214,777	2,336,865 : 192.4
Potatoes	3,131	3,013	96.2	Bu.	363,332	387,857 : 106.8
Sweetpotatoes ..	833	824	98.9	Bu.	69,291	76,078 : 110.0

1/ Source: Crop Production, B.A.E. 11-10-44

2/ Picked and threshed.

Livestock and Livestock Products: Production 1932-41
and Indicated 1944 Production

Item	Unit	Average 1932-41	1944 Indicated	1944 Indicated as Percent of Average 1932-41
Milk, produced on farms.	Millions Lbs.	105,332	118,200	112.2
Milk cows, No. on farms.	Thousand Head	25,363	2/ 26,112	103.0
Eggs	Million Doz.	3,079	4,713	153.1
Hens & Pullets	Thousands	375,782	515,000	137.0
Chickens (Raised)	"	1/ 656,464	745,800	113.6
Chicken Broilers (No. Produced)	"	1/ 110,927	213,000	192.0
Turkeys	"	26,588	35,666	134.1
Hogs: Sows to Farrow in Spring	Thousand Head	7,488	9,269	123.8
Hogs: Sows to Farrow in Fall	"	4,511	4,990	110.6
Cattle and Calves, Total January 1	"	68,478	79,800	116.5
Sheep and Lambs, Total January 1	"	52,601	51,718	98.3

1/ 1937-41 average.

2/ Average for year.

Farmer Committeemen: Committeemen have become more active in both the Agricultural Conservation Program and in assisting with other assignments of the Agricultural Adjustment Agency during the past year. These committeemen in many counties have taken over the major portion of the supervision, signup and performance reporting in their communities which formerly was handled chiefly by personnel employed by county offices. There is need now, and there will be increasing need, for these county and community committeemen to do more supervisory work in connection with the practices performed in their communities.

The Agricultural Adjustment Agency county offices have become real service agencies to the farmer. This includes not only the major work in helping farmers plan their conservation work and assisting them in meeting problems encountered with production and specifications, but also many other programs which the Agricultural Adjustment Agency committeemen have been called upon to administer.

The speed with which information can be relayed to individual farmers through the medium of county and community committeemen has been an important factor in connection with many phases of the program, particularly those pertaining to the war effort. As an illustration of this, early in 1944 a serious shortage of corn developed at processing plants which were turning out by-products vitally needed in the prosecution of the war. This condition became so serious that some of the plants were forced to either shut down or operate on a limited scale. After several methods of obtaining the needed corn were tried without success, the War Department, through the War Food Administration, requested the Agricultural Adjustment Agency to use its entire organization in 125 corn-producing counties to purchase corn for the processing plants. Information concerning the seriousness of the situation was quickly passed down through the Agricultural Adjustment Agency State and county committees to the community committees. The community committeemen then went to work to get farmers to pledge corn for delivery to the Commodity Credit Corporation. The community committeemen divided among themselves the farms in their community, made a personal visit to each farmer and explained the need for the corn. Within 36 hours after the matter was explained to them, the community committeemen in one county had more than 1,700,000 bushels of corn pledged for delivery. Through the assistance of these committeemen and the response of the farmers, the crisis was avoided and the processors were assured of an adequate supply of corn for continued operation in order that corn products essential to the war services would be available. This method of operation has, and can be effectively carried out whenever the occasion arises. Experience has shown that to keep committeemen informed and interested in program operations, they must be kept active even though the size of the program varies from year to year. To keep them informed, it has been found necessary to hold periodic meetings of committeemen to discuss the Agricultural Adjustment Agency program and related programs to the end that they will be an accurate source of information about the program and thus better qualified to discharge their responsibilities in their home communities.

(b) Parity Payments

This budget schedule covers for the fiscal years 1944 and 1945 the amounts transferred to the appropriation accounts "Administrative expenses, Agricultural Adjustment Agency" and "Local Administration, Sec. 388, Agricultural Adjustment Act of 1938", and the transfers to cooperating agencies, and the reappropriation in 1946 of the unobligated balance to the appropriation "Conservation and use of agricultural land resources".

(c) Administration of Sugar Act (Allotment to AAA)

This budget schedule covers obligations under the allotment made to the Agricultural Adjustment Agency for making conditional payments to sugar producers under Title III of the Sugar Act of 1937.

(d) Special Account for funds transferred for "Administrative Expenses, Agricultural Adjustment Agency"

This appropriation account for the State and National expenses of the Agricultural Adjustment Agency has been established pursuant to section 392 of the Agricultural Adjustment Act of 1938, as amended (7 U. S. C. 1281-1407), which provides that the Secretary of the Treasury is authorized and directed upon the request of the Secretary to establish one or more separate appropriation accounts into which there shall be transferred from the respective funds available for the purposes of the several acts in connection with which the personnel or other facilities of the Agricultural Adjustment Agency are utilized, proportionate amounts estimated by the Secretary to be required by the Agricultural Adjustment Agency for administrative expenses in carrying out or cooperating in carrying out any of the provisions of the respective acts.

The amounts transferred into this appropriation account are within the limitations established for administrative expenses under the respective appropriations from which such transfers were made.

Transfers, 1945, as shown below	\$11,310,260
Budget estimate, 1946 (transfers as shown below)	<u>7,488,965</u>
Changes in transfers for 1946:	
Overtime decrease	-\$1,550,649
Other decrease	<u>-2,270,646</u>
	<u><u>-3,821,295</u></u>

STATEMENT OF SOURCES, PURPOSES, AND AMOUNTS OF FUNDS TRANSFERRED
(as shown in Budget schedules)

Purposes for which funds are transferred to this account	1944	1945 (estimated)	1946 (estimated)	Increase or decrease
Conservation and Use of Agricultural Land Re- sources - for adminis- tration of agricultural conservation program ..	\$7,585,146	\$6,802,726	\$5,332,103	-\$1,470,623
Parity payments - for administration of parity payments program	431,335	469,450	- -	-469,450
Sugar Act - for adminis- tration of sugar program payments	539,587	537,547	537,547	- -
Crop Insurance Act - for assistance in settlement of crop insurance claims	173,204	42,050	- -	-42,050
Section 32 - for Irish potato and truck crop payment program	21,651	- -	- -	- -
Commodity Credit Corpora- tion - for moisture content and grade de- terminations on loan collateral	409,684	604,316	604,315	-1
War Food Administration, Salaries and Expenses - for special war services in connection with emergency food programs	1,294,004	1,288,522	1,000,000	-288,522
Emergency Fund for the President - for dairy production payment program	109,252	- -	- -	- -
Commodity Credit Corpora- tion - for preparation of canners' certificates	11,375	15,000	15,000	- -
Overtime costs (on all of above items)	1,674,762	1,550,649	- -	-1,550,649
Total obligations	12,250,000	11,310,260	7,488,965	-3,821,295

The principal changes reflected in the Budget Schedule under this transfer account are (1) the reduction in the sum to be available for administrative expenses of the Agricultural Adjustment Agency in carrying out the agricultural conservation program which has been explained under the heading "Conservation and Use of Agricultural Land Resources", (2) the reduction arising out of the completion of the parity payment program in 1945, and the reduction of \$288,522 (from \$1,288,522 to \$1,000,000) in the amount estimated for transfer from the appropriation "Salaries and Expenses, War Food Administration" for special war services rendered by the Agricultural Adjustment Agency. The reduction in War Food funds for State and national expenses results from substantial reduction in special assistance to farmers to be rendered by the county associations, as explained in more detail under "Local Administration", page 212.

WORK UNDER THIS ACCOUNT

(Financed by Transfers as shown above and in the Budget Schedules)

The activities of the Agricultural Adjustment Agency are carried out under the supervision and control of the Chief, Agricultural Adjustment Agency, who is charged with the national responsibilities for the administration of the programs. In the States, under law, the administrative responsibilities are placed with farmers through State Committees.

State Committees are composed of not less than three or more than five farmers who are residents of the State and are appointed by the Secretary of Agriculture to administer the programs in the State with the aid of county and community committees, and of farmer fieldmen who serve as the necessary connecting link between the State and county committees. The State Director of Extension is an ex officio member of the committee.

The forty-eight States are grouped into five regional divisions. Each division is administered by a regional director with supervisory responsibilities over the programs and work of the committees within the region. States comprising each region are:

Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont

East Central: Delaware, Kentucky, Maryland, North Carolina, Tennessee, Virginia, and West Virginia

Southern: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Oklahoma, South Carolina, and Texas

North Central: Illinois, Indiana, Ohio, Michigan, Minnesota, Missouri, Nebraska, Iowa, South Dakota, and Wisconsin

Western: Arizona, California, Colorado, Idaho, Kansas, Montana, Nevada, New Mexico, North Dakota, Oregon, Utah, Washington, and Wyoming.

The regional offices of the Agricultural Adjustment Agency formulate and recommend programs adapted to the needs of the States of the Region and

coordinate and supervise program activities, keep State Committees informed of the objectives, provisions, and progress of farm programs and issue instructions and operating procedures in connection therewith; conduct meetings and investigations relating to programs and budget funds and account for expenditures in the Region.

The State Committees of the Agricultural Adjustment Agency develop programs adapted to the State conditions and needs and supervise program activities in the counties; keep local committeemen and the general public informed of the objectives, provisions and progress of farm programs in the State.

This organization administers the programs carried out by and the functions assigned to the Agricultural Adjustment Agency. There follows a brief summary of the functions performed under each of the projects:

Agricultural Conservation Program

(Transfer from Conservation and Use of Agricultural Land Resources)

Conservation practices and performance: Determine conservation needs, recommend program practices and practice specifications, methods of establishing farm allowances and rates of payment for practices, review and pass upon pooling agreements for practices; recommend conservation materials and services to be furnished and supervise procurement and delivery; instruct committeemen and others on methods to be used in determining acreages and the extent of conservation practices carried out and review performance results.

Marketing quotas: When applicable, certify results of referenda, instruct county and community committees, warehousemen, buyers, dealers and others concerning provisions of the programs, schedule penalty collections to the appropriate account, audit and certify claims for refunds, prepare reports on violations, and recommend marketing quota review committees for appointment by the Secretary.

Production goals: Determine State goals and approve county production goals; make plans and recommend facilities needed to attain such goals and summarize and appraise county reports to determine success of the program.

Parity Payment Program

(Transfer from Parity Payments appropriation)

The 1942 crop was the last crop on which parity payments were authorized. The expenses incurred during the fiscal year 1945 were in connection with completing payments on the 1942 crops of wheat, cotton, corn, rice, and tobacco.

Sugar Program

(Transfer from Sugar Act appropriation)

Conditional payments to sugar growers are made through the State offices of the Agricultural Adjustment Agency. The expenses incurred under this

program are in connection with determining proportionate shares of individual producers, approving areas in which adjusted payments should be made because of partial or total crop failure, settling wage claims of laborers, establishing quota allotments and checking sugar mill records, etc.

Crop Insurance Program

(Transfer from Crop Insurance Act appropriation)

Crops planted prior to July 31, 1943, were the last insured under the Federal Crop Insurance Program. The functions performed by the Agricultural Adjustment Administration during the fiscal year 1945 were chiefly in connection with settling claims for losses. This program is being liquidated in the fiscal year 1945.

Pursuant to Public Law 551, 78th Congress, approved December 23, 1944, a new crop insurance program commencing with the wheat, cotton, and flax crops planted for harvest in 1945 was authorized by the Congress. Certain functions in connection with carrying out this program will be performed by the Agricultural Adjustment Agency and financed from funds to be allotted to it from appropriations made for the purpose.

Irish Potato and Truck Crop Payment Program

(Transfer from Section 32)

During the fiscal year 1944, payments were offered to producers of Irish potatoes and truck crops for increasing the production of such crops. The expenses incurred under this project were in connection with establishing and adjusting county goals, examining, computing, and scheduling applications and processing claims.

Commodity Loan Program

(Transfer from Commodity Credit Corporation)

Expenses were incurred under this project in connection with work incident to the storing of agricultural commodities and making loans thereon under the commodity loan programs of the Commodity Credit Corporation. The Agricultural Adjustment Agency with the equipment and facilities available in the various States, makes protein and moisture tests which are the final factors in determining grades and therefore loan eligibility of the harvested crop offered as collateral security for loans.

Special War Services Program

(Transfer from War Food Administration, Salaries and expenses)

The work under this project is concerned with the handling of those functions or programs which are designed to assist in attaining maximum production of needed agricultural commodities, assigned to the Agricultural Adjustment Agency by War Food Administrator's Memorandum No. 31, Revised. During the fiscal year 1946 the Agricultural Adjustment Agency will assist in handling three programs under this project; namely,

Feed transportation and distribution: It is anticipated that there will be some easing in the feedstuffs situation due to an increased availability of such feedstuffs. This project is concerned with the movement of feed, especially wheat and protein feed, into deficit livestock feed areas from the standpoint of moving the feed in such a manner as to conserve transportation facilities and to get the feed into the areas where it is most urgently needed.

Rationing of machinery, etc; The rationing of farm machinery and corn pickers has been lifted. Under this project, the Agricultural Adjustment Agency assists farmers in obtaining lumber, copper wire, electrical utility connections, power pumps, merchant trade products, electric motors, hay drying equipment, crawler tractors, etc. At the Washington and State levels the work is concerned with administering these programs, handling inquiries and issuing instructions and procedures.

Service to farmers in procurement of equipment and supplies: This project is concerned with bringing to the farmers an equitable share of the surplus trucks, farm machinery, equipment, and miscellaneous items such as hand tools, wheelbarrows, tarpaulins, rubber boots, rope, etc., which have been made available for disposal. Under this project the Agricultural Adjustment Agency arranges auction sales of Defense Plant Corporation excess inventories which are not now available on the market.

Administration in the field of farm transportation program, including recommendation for issuance of certificates for tires, off-highway gasoline and tractor fuels: Under this program the farmer was given assistance on all phases of his transportation problems in order to maintain food production at a high level. It was essential that all available trucks, truck tires, fuel, and gasoline be placed where they would contribute the most to farm transportation. No funds are being made available to the Agricultural Adjustment Agency for the fiscal year 1946.

Dairy Production Payment Program

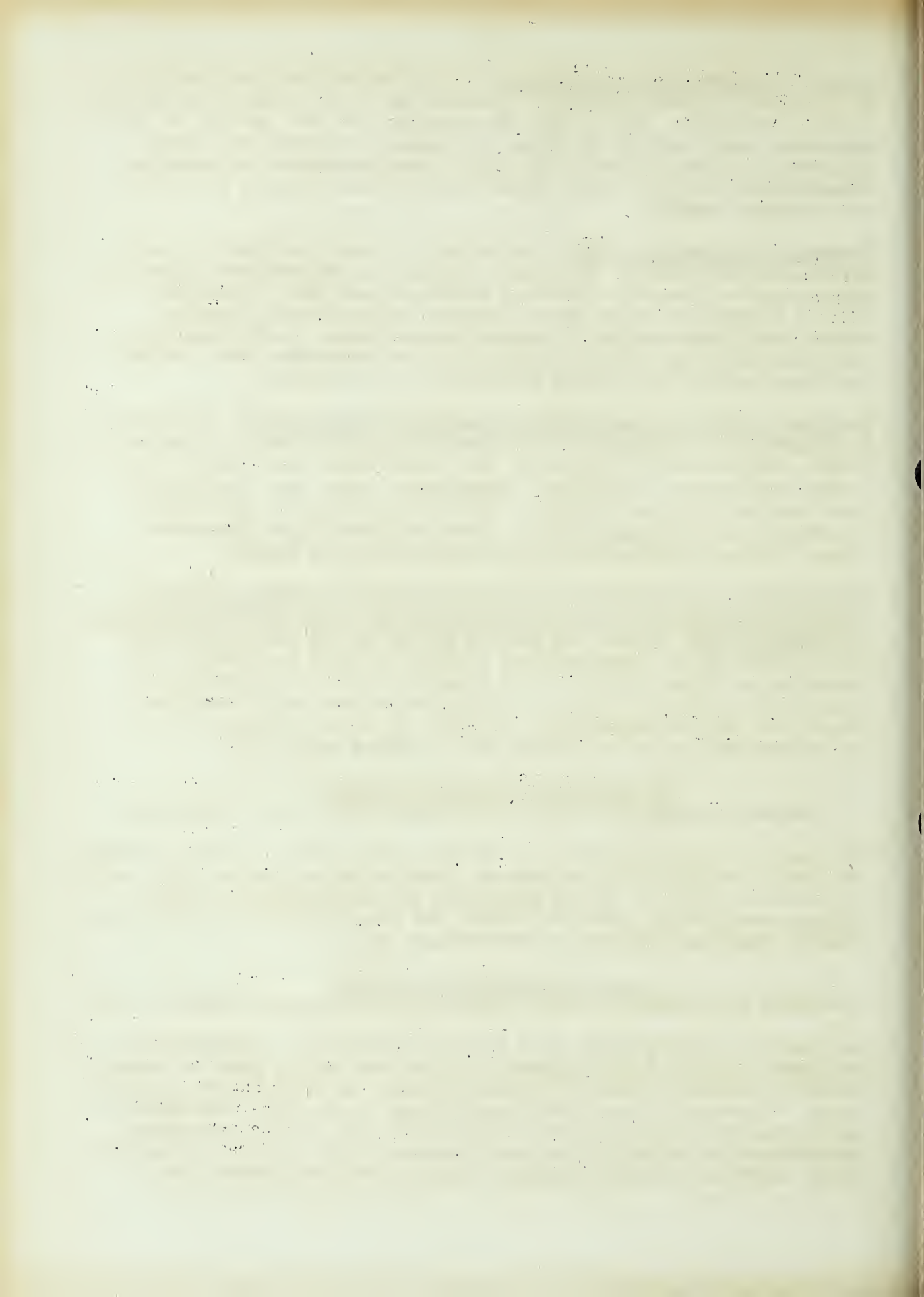
(Transfer, fiscal year 1944, from Emergency Fund for the President)

The purpose of this program was to stabilize feed costs to dairy producers in order to maintain milk production. Administrative expenses were incurred at the State level for issuing procedures and instructions to county offices, transmitting specific problems and recommendations to the regional offices, handling inquiries, correspondence, etc.

Canners' Certification Program

(Transfer from Commodity Credit Corporation administrative expense funds)

The purpose of this program is to encourage producers of vegetables for processing, through price supports, to plant the largest possible acreages to yield a maximum tonnage of processing foods for military and civilian needs. The work performed under this project is concerned with certifying applications to be sent canners; examining and passing on processor applications for certification; hearing appeals from canners; transmitting names, addresses and other pertinent data on certified canners, etc.



(e) Special Account for funds transferred for "Local Administration, Sec. 388, Agricultural Adjustment Act of 1938"
(County Agricultural Conservation Associations)

This appropriation account for local expenses of the Agricultural Adjustment Agency has been established pursuant to sections 388(b) and 392(a) of the Agricultural Adjustment Act of 1938, as amended (7 U. S. C. 1281-1407), which provide that the Secretary of the Treasury is authorized and directed upon the request of the Secretary to establish one or more separate appropriation accounts into which there shall be transferred from the respective funds available for the purposes of the several acts in connection with which the personnel or other facilities of the Agricultural Adjustment Agency are utilized, proportionate amounts estimated by the Secretary to be required by the Agricultural Adjustment Agency local county agricultural conservation associations for carrying out any of the provisions of the respective acts.

Transfers, 1945, as shown below	\$28,798,200
Budget estimate, 1946 (transfers, as shown below)	23,961,700
Changes for 1946:	
Decrease	<u>-4,836,500</u>

STATEMENT OF SOURCES, PURPOSES, AND AMOUNTS OF FUNDS TRANSFERRED

Purposes for which funds: are transferred to this account	1944	1945 (estimated)	1946 (estimated)	Increase or decrease
Conservation and Use of Agricultural Land Re- sources - for local ex- penses of agricultural conservation program .	17,510,850	16,300,000	16,300,000	- -
Parity Payments - for local expenses of parity payments program	56,009	- -	- -	- -
Sugar Act - for local expenses of sugar program	375,000	375,000	375,000	- -
Crop Insurance Act - for local operations in liquidation of crop insurance program	570,000	- -	- -	- -
Commodity Credit Corpo- ration - for local services to commodity loan program	600,000	754,700	754,700	- -
Commodity Credit Corpo- ration - for local administration of dairy production payment program	a/2,223,751	1,750,000	1,750,000	- -

a/ Transferred from "Emergency Fund for the President".

STATEMENT OF SOURCES, PURPOSES, AND AMOUNTS OF FUNDS TRANSFERRED - Cont.

Purposes for which funds : are transferred to : this account :	1944 :	1945 : (estimated):	1946 : (estimated):	Increase or decrease :
Commodity Credit Corpo- ration - for preparation of canners' certificates:	39,150:	25,000:	25,000:	- -
War Food Administration, Salaries and expenses - for special war services: in connection with emergency food programs :	7,930,670:	7,756,500:	2,957,000:	-4,799,500
Reimbursement for serv- ices performed	1,915,194:	1,837,000:	1,800,000:	-37,000
Total	31,220,624:	28,798,200:	23,961,700:	-4,836,500

INCREASES OR DECREASES

The reduction of \$4,799,500 in funds estimated to be transferred from the appropriation "Salaries and Expenses, War Food Administration" for expenses of county associations in rendering special wartime services to farmers, is composed of the following:

- (a) A decrease of \$447,350 (from \$824,350 to \$377,000) in feed transportation and distribution due to the present outlook on the increased availability of feedstuffs during the fiscal year 1946.
- (b) A decrease of \$3,404,878 (from \$4,274,878 to \$870,000) in rationing of farm machinery and related programs due to the lifting of farm machinery and equipment rationing. The Agricultural Adjustment Agency will continue to carry on during the fiscal year 1946 activities in connection with allocation of lumber, copper wire, electric utility connections, fertilizers, handling of crawler tractor applications, etc.
- (c) A decrease of \$2,565,772 in the farm transportation program due to the elimination of this project.
- (d) A decrease of \$14,000 in the frozen food locker plants project due to its elimination.
- (e) A decrease of \$10,000 in the administration of the alcohol order due to the elimination of this project.
- (f) A decrease of \$67,500 in the administration of the corn purchase program. This was an emergency program and the obligations incurred in 1945 become a nonrecurring item in 1946.
- (g) An increase of \$1,710,000 for service to farmers in the procurement of equipment and supplies. The program under this allotment is to distribute equitably by area and to individual farmers such items

of surplus material as trucks, farm machinery, and other items required in the production of needed agricultural commodities which have not been available to farmers because of drastically curtailed production for civilian use.

In order to accomplish this, the Agricultural Adjustment Agency will arrange for auction sales in those rural areas where the need for such equipment, etc., is the greatest in order that all surplus items will be placed where they will contribute the most to food production and transportation. Other phases of this program include the keeping of county offices properly informed in order that farmers may learn which items are available and how they may be obtained, and the supplying of information to the Office of Materials and Facilities as to the location of areas where shortages of farm machinery exist.

WORK UNDER THIS ACCOUNT

(Financed by Transfers as shown above and in Budget schedules)

Section 8(b) of the Soil Conservation and Domestic Allotment Act, as amended, requires that the Secretary of Agriculture designate local administrative areas and provides that cooperating producers in those areas elect local and county committeemen from their own number for terms of one year.

The democratic and efficient functioning of the farmer committeemen elected by the farmers at county and community levels - the most important administrative level in the program - has been clearly demonstrated by the manner in which these committeemen have performed the work assigned to them. The responsibilities of these committeemen have increased steadily and those undertaken have been successfully accomplished from year to year. The services rendered to farmers have increased and the administrative cost of the services has been reduced.

The value to the nation and its agriculture of the Agricultural Adjustment Agency committeemen set-up with its service contacts that reach the individual farmer has been proved beyond question during this wartime period. Through the farmer committeemen system, it has been possible to carry out important war jobs smoothly and quickly. The fact that these committeemen are elected through the regular balloting system brings about closer cooperation, since to be elected they must have the backing and approval of farmers in their own community. Because conservation needs vary widely in different localities, the committeemen for a particular area is in a position to know best the needs for that area. The fact that the committeeman is a farmer and a member of the community, is conducive to freer discussions and mutual understanding of varied problems between the farmer and the committeeman.

Training community committeemen to do seasonal work in connection with the program that formerly was handled by county office employees has been increasingly utilized since the war to meet both manpower and budgetary problems. There is every indication that this participation by community committeemen in the active administration of the program, whenever possible, will have very beneficial results and will be quite general throughout all regions.

There follows a brief summary of the type of work performed by the committeeman organization under each project:

Agricultural Conservation Program

(Transfer from Conservation and Use of Agricultural Land Resources)

In addition to directing and being responsible for the proper functioning of the county offices and supervising the activities of community committeemen, county committees determine county conservation needs; recommend program practices and methods of establishing farm allowances and rates of payments for practices; process applications for conservation materials and services, maintain material registers, receive and test samples, purchase, collect, clean, grade, store, and ship materials and assist in negotiating contracts for services.

Marketing quotas: When applicable, conduct referenda on marketing quotas; issue notice of individual quotas; hear appeals, issue marketing cards, collect and transmit penalties; correlate general reports and quotas; maintain farm accounts.

Production goals: Recommend county production goals; assist community committeemen in establishing community goals.

Practice goals: Recommend county goals and assist community committeemen in establishing community goals.

Parity Payment Program

(Transfer from Parity Payments appropriation)

Expenses were incurred under this project during the fiscal year 1945 in connection with completing payments on the 1942 crop of wheat, cotton, rice, corn and tobacco. The 1942 crop was the last crop for which parity payments were authorized.

Sugar Payment Program

(Transfer from Sugar Act appropriation)

Expenses were incurred under this project in connection with determining eligibility of producers for conditional sugar payments, recommending areas in which adjusted payments should be made because of partial or total crop failure, processing applications, etc.

Crop Insurance Program

(Transfer from Crop Insurance Act appropriation)

Expenses were incurred under this project in connection with liquidating the crop insurance program covering certain crops planted prior to July 31, 1943. A new crop insurance program was authorized December 23, 1944, pursuant to Public Law 551, 78th Congress, but no funds are included in this budget estimate for work to be performed under the new program.

Commodity Loan Program
(Transfer from Commodity Credit Corporation)

Expenses were incurred under this project in connection with determining eligibility of producers for loans and support purchases; inspecting and determining storage facilities; collecting and distributing fees; purchasing and selling for the account of the Commodity Credit Corporation; assisting producers and handlers in working out methods of marketing.

Dairy Production Payment Program
(Transfer from Emergency Fund for the President, fiscal year 1944, from Commodity Credit Corporation, fiscal years 1945 and 1946)

Expenses were incurred under this project in connection with determining the eligibility of producers for dairy production payments; checking evidence of sales, processing applications and preparing sight drafts.

Canners' Certification Program
(Transfer from Commodity Credit Corporation)

Expenses were incurred under this project in connection with encouraging grower-processor contracts for needed vegetable acreage at not less than support prices and making recommendations on processor contracts and applications by processors for certification.

Special War Services Program
(Transfer from War Food Administration, Salaries and expenses)

Expenses were incurred under this project in connection with the functions delegated to the Agricultural Adjustment Agency by War Food Administrator's Memorandum No. 31, Revised. These functions constitute assistance to farmers in handling locally such wartime problems as:

Feed Transportation and Distribution: The expenses incurred under this project were in connection with the movement of feed, especially feed wheat and protein feed into deficit livestock feed areas both from the standpoint of getting the feed to these areas and moving the feed from the areas most adjacent in order to save all possible transportation.

Rationing of machinery, etc: Rationing of machinery and corn pickers has been lifted. When the program was in effect, the Agricultural Adjustment Agency, through county farm rationing committees, distributed rationed machinery on the farms where it would make the greatest contribution to the food production program. The acute labor shortage that existed made the use of labor-saving machinery necessary if production was to be maintained. Distribution control had to be adapted to meet not only rationing of individual items of farm equipment but also to permit a control over the over-all distribution among States. The responsibilities under this program included assembling information as to identification, location, and ownership of each piece or group of machinery.

Allocation of copper wire: The work under this project is concerned with issuing certificates for essential uses of copper directly to farmers who have need of this wire in furthering wartime production. War Production Board instructions controlling the distribution of copper wire makes it very difficult for farmers to obtain such wire which is needed to operate electrical labor-saving equipment on the farm. Much of the wire distributed to farmers under this program has been used to wire farmsteads and has permitted new electrical connections to operate labor-saving equipment.

Electrical utility connections: The work under this project is concerned with making utility connections available to farmers in order that they may operate labor-saving equipment and increase production by increasing efficiency of farming operations. The heavy demand for food during the war, accompanied by decrease in manpower on the farms have made the use of labor-saving equipment essential.

Fertilizers: The work under this project is concerned with obtaining the maximum feasible production of fertilizer materials and providing for equitable distribution in accordance with crop goals and requirements. The functions of the county committee include aiding in the development of a thorough understanding in the county of War Food Order-5; the formulation of recommendations concerning requirements; and reporting shortages and violations.

Irrigation project and farm water wells: The work under this project is concerned with reviewing applications and notifying applicants of the action taken or their requests for motive power and pumps used in farm wells for stock water or other domestic uses and equipment used for irrigation, including tubular steel well casing and casings fabricated from sheet metal.

Procurement of merchant trade products under CMP-4 (WPB Controlled Materials Plan) and farm supplies under PR-19 (WPB Priorities Regulation): The work under this project is concerned with maintaining an equitable distribution of steel and other raw materials and articles for farm use. The responsibilities under this program include furnishing information to farmers as to the procedure to be followed in making purchases of restricted articles and to dealers of the necessity of obtaining from purchasers the priority rating in order that they may justify purchase to replenish their stock of merchandise; maintaining all provisions of WPB Order CMP-4 and PR-19 and amendments thereto.

Electric motors and hay drying equipment: The great need for electric motors of one horsepower or over in our war equipment and the limited quantities of raw material as well as production facilities made it necessary to put into effect some method of control to civilian users. Agriculture presented an essential need for this size motor to operate fans and blowers in hay-drying equipment and steps were taken to make sufficient units available. The responsibilities under this program are to inform the farmers of the procedure used and to advise them of the application forms needed; to review the farmers' application forms (WPB-541) and if approved by the committee, to send letter of recommendation to the nearest War Production Board field office; to return

disapproved applications and to forward appeals to the district War Production Board field office with a letter of explanation.

Construction Order L-41: Construction Order L-41 was issued by the War Production Board for the purpose of conserving materials, construction equipment, labor, and transportation in the interest of more effective prosecution of the war effort. The responsibilities under this project include consideration of applications (WPB-617) on the basis of local conditions and determination of whether the project is essential for food production and that the materials requested are necessary for the completion of the project; preparation of recommendations on applications; maintenance of copies of Order L-41 with all amendments; informing farmers of the steps necessary to obtain a construction authorization.

Lumber Program: The work under this project is concerned with issuing AA-2 and AA-3 ratings against established quotas for the procurement of lumber.

Handling of crawler tractor applications: The work under this project is concerned with handling applications for crawler tractors and placing such tractors on farms having the greatest need.

Issuance of certificates for farm engines and farm light plants: The work under this project is concerned with handling applications, approving or disapproving applications and issuing certificates to the farmers to enable them to obtain the needed equipment.

Administration in the field of farm transportation program, including recommendation for issuance of certificates for tires, off-highway gasoline and tractor fuels: The work under this project is concerned with authorizing conversions from steel wheels to rubber when such change would benefit food production, handling applications and issuing certificates for tires, off-highway gasoline and tractor fuels; placing available trucks and truck tires where they will contribute the most to farm transportation.

Certification of applications for frozen food lockers: The work under this project is concerned with reviewing applications for frozen food lockers certifying such applications as to the number of persons who will retain lockers in the plant and forwarding such applications to the field office of the War Production Board.

Administration of Alcohol order: The work under this project is concerned with furnishing producers with procedures, instructions, and information pertaining to War Food Order No. 69 which prohibits the use of 23 fruits and berries in the production for sale of products containing seven percent or more of alcohol except by special authorization.

Service to farmers in procurement of equipment and supplies: The work under this project is concerned with bringing to the farmers an equitable share of the surplus trucks, farm machinery, equipment, and miscellaneous

items such as hand tools, wheelbarrows, tarpaulins, rubber boots, rope, etc. which have been made available for disposal. This surplus material is critically needed on the farms in order to keep the production and transportation of food at a high level. Many of the items which are available at the auction sales arranged by the Agricultural Adjustment Agency are not now available on the market.

(f) Payments for Agricultural Adjustment

This budget schedule covers the amount covered into the Treasury in accordance with Public Law 589, 77th Congress, approved June 5, 1942, relating to final settlement of claims and accounts arising in connection with the liquidation of moral obligations incurred under the production adjustment programs initiated under Section 12(b) of the 1933 AAA Act, which was invalidated by the Supreme Court.

(g) Administrative Expenses, Payments for Agricultural Adjustment

This budget schedule reflects obligations in 1944 under the \$25,000 reappropriated by Public Law 589, 77th Congress for administrative expenses in connection with the settlement of claims and accounts incident to the Agricultural Adjustment programs in effect prior to January 6, 1936. No obligations were incurred subsequent to December 2, 1943, the date on which the availability of such funds expired.

(h) Salaries and Expenses, Agricultural Adjustment Administration

This Budget schedule reflects the allotments and transfers to other agencies of the Department from the unobligated balance of the sum of \$100,000,000 appropriated in accordance with the provisions of Section 12(a), title I, of the Act of May 12, 1933. Under authority contained in the Agricultural Appropriation Act, allotments and transfers are made from this fund for International Production Control Committees (OFAR), and to the Bureau of Animal Industry for "Marketing Agreements, hog-cholera virus and serum". Detailed schedules of obligations for these two items appear in the Budget under the titles of the respective agencies.

(i) Emergency Fund for the President, National Defense
(Allotment to Agriculture)

This budget schedule covers the amounts transferred into the appropriation accounts "Administrative expenses, Agricultural Adjustment Agency", and "Local Administration, Sec. 388, Agricultural Adjustment Act of 1938" for expenses in administering the dairy production payment program.

(j) Working Fund, Agricultural Adjustment Agency

This budget schedule covers obligations during 1944 under advances made to the Agricultural Adjustment Agency, to cover expenses for services rendered to the War Department for preparing photographic reproductions, indexing, and preparing aerial photography for mosaic and charting purposes and other special photograph work. These funds are advanced pursuant to section 601 of the Economy Act of June 30, 1932.

(k) Moisture Content and Grade Determinations for Commodity Credit Corporation

This budget schedule reflects obligations incurred by the Agricultural Adjustment Agency in connection with the sampling and testing of commodities to determine loan eligibility.

(l) Indemnity Fund, County Associations

This budget schedule covers assessments made against the county agricultural conservation associations to insure the United States of America, the county agricultural conservation association, and any other agencies or persons deemed by the Agricultural Adjustment Agency to be entitled to reimbursements for losses of money or any other property caused by willful negligence or willful malfeasance of an officer or employee of the association.

(m) Undistributed Cotton Price Adjustment Payments

This budget schedule covers 1935 cotton price adjustment payments which could not be paid to persons entitled thereto by the trustees who received the payments under such program.

(n) Proceeds, Distilled Spirits Industry

This budget schedule shows balances carried forward each year from funds collected under Marketing Agreement No. 27, entered into by certain members of the distilled spirits industry and the Secretary of Agriculture (Sections 2 and 8, Act of May 12, 1933, 48 Stat., pp. 31-41; U. S. C., Title 5, Sections 601-622).

STATEMENT OF OBLIGATIONS UNDER SUPPLEMENTAL FUNDS
(1944 and 1945 figures include overtime costs)

Item	Obligations, 1944	Estimated obligations, 1945	Estimated obligations, 1946
<u>Administration of Sugar Act: For</u>			
conditional payments to sugar			
growers under Title III of the			
Sugar Act	\$53,706,907	\$51,320,584	\$47,368,613
<u>Administrative Expenses, Payments</u>			
<u>for Agricultural Adjustment:</u>			
Administrative expenses in settle-			
ment of claims incident to agri-			
cultural Adjustment programs in			
effect prior to January 6, 1936.	19,437	- -	- -

STATEMENT OF OBLIGATIONS UNDER SUPPLEMENTAL FUNDS - Cont.
 (1944 and 1945 figures include overtime costs)

Item	Obligations, 1944	Estimated obligations, 1945	Estimated obligations, 1946
<u>Working Funds (Agricultural Adjust-</u>			
<u>ment Agency) Advances from War</u>			
<u>Department:</u>			
Indexing and preparation of			
aerial photographs for mosaics			
and charting purposes for Army			
Air Force	111,002:	159,998:	- -
Preparation of Photographic			
reproductions for Central Film			
Library, War Department	58,669:	145,331:	- -
Total, Working Funds	169,671:	305,329:	- -
<u>Moisture Content and Grade</u>			
<u>Determinations for Commodity</u>			
<u>Credit Corporation:</u>			
Expenses of inspecting, sampling:			
grading, sealing, testing and			
other work incident to storing			
grain and potatoes and making			
loans thereon under the			
Commodity loan program	- -:	3,000:	3,000
<u>Indemnity Fund, County Associa-</u>			
<u>tions:</u>			
Reimbursement to United States			
and other agencies or persons			
for losses by negligence or			
willful malfeasance by an			
employee of the county agricul-			
tural conservation associations	5,649:	1,000:	1,000
<u>Undistributed Cotton Price Adjust-</u>			
<u>ment Payments:</u>			
Cotton price adjustment payments:			
which would not be paid to			
persons entitled thereto by the			
trustees who received the pay-			
ments under such program	2,159:	2,000:	1,000
Total, Obligations under Supple-			
mental Funds	53,903,823:	51,631,913:	47,373,613

Note: Above statement lists those supplemental funds under which obligations were incurred or are estimated to be incurred directly. Obligations under other supplemental funds which are transferred to the accounts "Administrative expenses, AAA" and "Local administration, Sec. 388, etc." are included in the obligations under those heads.

PASSENGER-CARRYING VEHICLES

The estimates contemplate continued operation of one car in the District of Columbia, for transportation of the Chief, Agricultural Adjustment Agency and his staff on official business, and include \$200 for maintenance and operation of the car.

PENALTY MAIL
Section 2, Public Law 364, 78th Congress
(Allotment to Agricultural Adjustment Agency)

	<u>Category 1</u>	<u>Category 2</u>	<u>Total</u>
1945	\$9,000	\$1,026,625	\$1,035,625
1946	9,000	1,116,000	1,125,000
Change	- -	+89,375	+89,375

The Agricultural Adjustment Agency administers programs formulated under the Agricultural Adjustment Act of 1938 and Sections 7 to 17, inclusive, of the Soil Conservation and Domestic Allotment Act to assist farmers in carrying out soil building and soil and water conservation practices to maintain, protect and rebuild the Nation's soil resources while at the same time achieving the quantity and quality production needed for all purposes during war or peace. The Agency also administers in the field other programs assigned to it such as the Sugar Payment Program, formulated under Title III of the Sugar Act of 1937, the Flax Program, commodity loans and other price support programs, Dairy Production Payments Program and certain War Food Programs including feed transportation and distribution; rationing and allocation of building supplies, fertilizer, and other agricultural materials and facilities; and service to farmers in procurement of equipment and supplies.

Pursuant to basic legislation, the agricultural conservation and related programs are administered by Community, County and State committeemen who carry full responsibility for administration of all programs in the field. State AIA offices, approximately 35,000 community committees, and over 3,000 county association offices must be kept informed on all phases of the various programs of the Agricultural Adjustment Agency to be of the utmost assistance to the farmers of the country.

There were 6,561,710 payees under the 1943 Agricultural Conservation Program and over 6,000,000 farmers prepared farm plan sheets in connection with the 1944 production goals. There were approximately 73,850 producers under the 1943 sugar payment program. Practically every farmer in the United States participated in one or more of the emergency programs of the War Food Administration, which are administered in the field by the Agricultural Adjustment Agency. In a program of this nature requiring direct contact with many individual farmers and groups of farmers, the volume of mail is necessarily substantial.

Category 1 consists of special mailings such as announcements regarding price support, crop and livestock data, material covering announcements and special statements regarding price support for potatoes, etc., crop and livestock production data, and statistical and economic information on agricultural production and distribution, etc.

Category 2 consists of operational and administrative material in connection with the various programs of the Agricultural Adjustment Agency at regional, state, county, and community levels. This material is principally instructional and includes instructions and procedures for purchasing

cotton under the Cotton Purchase Program, preparing farm plan worksheets, explaining conservation practices and establishing production goals, etc.

In addition to the dissemination of information to state, county, and community committeemen concerning the Agricultural Adjustment Agency's farm programs, in administering the Agricultural Adjustment Agency programs digest of practices, rates of payments, and notice of farm plan sign-up meetings are sent to all producers when a new program is initiated. Those farm plans which have not been accomplished and signed in the county offices or at community meetings are mailed to the producers for accomplishment and return. After the farm plans have been checked and certain practices which require prior approval have been reviewed, the farm plans are mailed back to the producers. The report of performance on the reverse side of the farm plan is completed in the county office or at community meetings but in many cases this is impossible and they must be mailed to producers.

Information in regard to compliance with special practices are mailed at various times during the program or to producers who have indicated that they expect to perform such practices. Applications for payments under the program are mailed to producers for signature and returned unless signatures have been obtained at community meetings or at county offices.

Cards are mailed to cooperatives and producers to announce community meetings. After checks in payment for the performance of practices under the program have been sent to the cooperative by the Regional Disbursing Officer, a copy of his application for payment is mailed to him from the county office.

The increase of \$89,375 for 1946 is composed of:

(a) An increase of \$54,000 for mailings in connection with the Dairy Production Payment Program. In 1946 it is planned to make the Dairy Production Payments by mail to the greatest extent possible. The number of participants in this program have increased so that it is not practicable to have all producers apply in person at the county offices for drafts on the Commodity Credit Corporation covering amounts due them under the program. Farmers are, therefore, being encouraged to mail the necessary sales data to the county office for checking, computing and completing applications, and drafts will be issued and mailed by county offices to producers.

There will be four Dairy Production payments in 1946 to each of approximately 1,800,000 producers, or a total of 7,200,000 payments. It is anticipated that 3,600,000 of the payments will be made by mail, which at the established rate of .015 cents per item would cost \$54,000.

(b) An increase of \$35,375 for mailings in connection with the 1945 Flax Program. An amendment to the Federal Crop Insurance Act authorizes \$30,000,000 for making payments to encourage increased production of flax in 1945. This program will be concentrated to a large extent in California, Iowa, Kansas, Minnesota, Montana, North Dakota, Oklahoma, South Dakota and Texas, and will involve issuing applications, instructions and other program matter to approximately 2,000,000 farmers through 854 county associations.

FEDERAL CROP INSURANCE ACT

General Statement

Pursuant to the "Act to Amend the Federal Crop Insurance Act" approved December 23, 1944, Public Law 551, authorizing a crop insurance program commencing with wheat, cotton, and flax crops planted for harvest in 1945, and trial insurance on corn and tobacco crops, the Federal Crop Insurance Corporation is now getting this program under way. Section 6 of the Act reappropriated \$3,000,000 for immediate use during the remainder of the 1945 fiscal year from unobligated balances of the funds appropriated for carrying out the provisions of the Federal Crop Insurance Act for the fiscal years 1943 and 1944.

The original 1946 Budget made no provision for funds with which to continue operation of the Federal Crop Insurance Corporation. The program being initiated under the provisions of the Act of December 23, 1944, Public Law 551, is designed to make available to producers of certain crops, all-risk insurance against unavoidable losses sustained with respect to such crops. The Budget has now been amended to include an estimate of \$7,984,900 for administration of this program in the fiscal year 1946, as compared with \$8,572,954 appropriated for such purpose in the fiscal year 1943, this being the latest year in which the Federal Crop insurance program was in full operation.

In order to tighten control over the several programs of insurance, as expanded under Public Law 551, some changes have been inaugurated in operating policy. These changes may result in a slightly increased cost of administration, but also should effect material savings in the insurance program costs. Under the 1945 program, Corporation representatives will be located in each participating state and will be responsible for directing and supervising various phases of the insurance programs at state and county levels. This will apply particularly to the adjustment of losses by Corporation employees. Under previous programs the responsibility for adjustment of losses was delegated to the Agricultural Adjustment Agency, subject to procedures issued by the Corporation.

Public Law 551 provides that after the crop year of 1949, if the total amount of accumulated claims for losses on any agricultural commodity for any year exceeds the total amount of the premiums collected less the accumulated premium reserves of the Corporation with respect to any such commodity, (which reserves, after the crop year 1948, shall not be less than 10 per centum of premiums collected on such commodity), such claims shall be paid on a pro rata reduced basis. It is contemplated that the plan of operation under the new program will, except in the event of heavy crop failures, result in enabling the Corporation to pay indemnities from premiums collected and to create a reserve sufficient to remove the necessity of settling claims on a pro rata reduced basis as stipulated in Public Law 551.

Emphasis is being placed on participation in the program by farmers. The contract sales cost will have a direct relationship to the participation obtained.

Other changes made will cause the amount of individual indemnities to be dependent upon the state of advancement of the crop. This will result in a reduction in indemnities to the extent of savings in cost to the farmer by his not performing the normal operations which would otherwise be followed between the time of loss and harvest time.

FEDERAL CROP INSURANCE ACT

(a) Administrative and Operating Expenses

As the operations of the Corporation for nearly half of the 1945 fiscal year were confined to liquidating past insurance programs, the 1946 estimates are not comparable thereto. The figures applicable to the 1943 fiscal year are shown since it is the latest year in which the Corporation's insurance program was in full operation covering wheat and cotton crops. The estimate for 1946 covers all-risk insurance against unavoidable losses of wheat, cotton, and flax crops; also trial insurance on corn and tobacco in not to exceed 20 counties each in the 1945 program; and, pursuant to Public Law 551, 78th Congress, amending the Federal Crop Insurance Act, trial insurance may be offered on not to exceed three additional crops each year beginning with the 1946 program.

Agricultural Appropriation Act, 1945 (Reappropriation from 1944 balance).....	\$350,000
Amendment to Federal Crop Insurance Act, Public Law 551, 78th Congress (Reappropriation from 1943 and 1944 balances)	<u>3,000,000</u>
Total available, 1945	<u>\$3,350,000</u>
Appropriation Act, 1943	8,572,954
Budget Estimate, 1946	<u>7,984,900</u>
Change for 1946:	
Overtime decrease	-107,251
Other decreases	<u>-480,803</u>
	<u>-588,054</u>

PROJECT STATEMENT

Project	1945	1943	1946 estimated
1. General administration: Program planning and direction; development and study of actuarial structure and loss adjustment practices; supervision of field activities incident to applications and premiums; approval of bases for crop insurance yield and premium rates in individual counties	\$432,372	\$514,919	\$927,980 (1)
2. Federal Crop Insurance Corporation Branch Offices: Verification of insurance contracts; auditing and accounting for premiums collected and indemnities paid	216,721	729,952	551,920 (2)
3. Storage and handling costs incident to acquisition, maintenance, and sale of commodity reserves	- -	-57,720	280,000 (3)
4. (a) State office administration; sales promotion, loss adjustment; field work incident to yield and rates, collection of premiums; and farm inspection	338,664		2,000,000
(b) Agricultural Adjustment Agency	1,608,434	4,884,579	2,800,000
(c) Insurance contract sales expense	631,400		1,400,000
Subtotal Project 4	2,578,498	4,884,579	6,200,000 (4)
Overtime costs	117,409	107,251	- -
Unobligated balance	- -	224,332	- -
Total available	3,345,000	6,403,313	7,959,900
Transferred to:			
Treasury Department	5,000	21,945	25,000 (5)
Other Agencies	- -	247,696	- -
Reappropriation of unobligated balances from 1943 and 1944 fiscal year appropriations available in 1945	-3,350,000	+1,900,000	- -
Total estimate or appropriation.	- -	8,572,954	7,984,900

(1) An amount of \$927,980 is estimated for 1946 under the project "General administration; program planning and direction; development and study of actuarial structure and loss adjustment practices; supervision of field activities incident to applications and premiums; approval of bases for crop insurance yield and premium rates in individual counties." It is estimated that this amount will be needed by the Headquarters Office in order to effectively administer an expanded program of crop insurance.

Prior to the time of liquidation of crop insurance programs beginning with the 1944 fiscal year, insurance was authorized and offered only with respect to wheat and cotton crops. Public Law 551, approved December 23, 1944, authorized insurance of wheat, cotton and flax in 1945 and insurance on a trial basis of corn and tobacco. Not to exceed three additional crops in any one year after 1945 is authorized under this Law.

In 1946 a general insurance program will be continued on wheat, cotton and flax crops; corn and tobacco insurance will be continued on a trial basis. In addition, it is contemplated that trial insurance will be extended to three other crops, as authorized by Public Law 551. Such an enlarged program will require (1) material expansion in program planning activities entailing considerable research; (2) new considerations as to how the programs should be presented; and (3) a determination of representative counties in which to offer the insurance for those crops which will be insured on a trial basis. It will be necessary to extensively analyze the statistical data obtained from the Bureau of Agricultural Economics in order to compute and establish county check yields and premium rates on a sound actuarial basis. These determinations are essential to the approval, in the field, of yields and rates recommended in each county. Additional personnel will be required to direct the operation of the new and experimental programs of insurance, to conduct an insurance educational program, and for general administration and fiscal control.

Certain actuarial and analysis activities previously carried on in the branch offices have been transferred to the Headquarters Office as a means of affecting economies in this work and of insuring greater uniformity in the interpretation and application of data used in program operations.

(2) An amount of \$551,920 is estimated for 1946 under the project "Federal Crop Insurance Corporation Branch Offices: Verification of insurance contracts; auditing and accounting for premiums collected and indemnities paid." This amount is estimated to be needed for the operation of the Corporation's three branch offices.

The primary functions of the branch offices consists of auditing, accounting and maintaining the insurance files. Applications for insurance are audited in accordance with approved procedure after which they are formally accepted on behalf of the Corporation. Seeded acreage reports are likewise audited and the cash equivalents of the commodity premium notes are established as of the maturity dates thereof. Cash premium payments are received, audited and deposited. Payrolls for all field employees are prepared, audited and certified for payment. Complete accounting records in connection with the foregoing are maintained together with state and county breakdown reflecting insurance operations at such levels. Complete files are maintained for each insurance contract.

The actual expenditures for the fiscal year 1943 covered expenses incident to the operation of four branch offices and the 1946 fiscal year estimates provide only for three. The three offices will handle the expanded volume of work under the new program with approximately the same funds used by the four offices in 1943, when the transfer of certain actuarial and analysis activities to and explained under project 1 are taken into account.

(3) An amount of \$280,000 is estimated for 1946 under the project "Storage and handling costs incident to acquisition, maintenance, and sale of commodity reserves."

It is estimated that this amount will be needed to cover storage costs incident to commodity stocks purchased at the time the cash equivalent of premium notes mature. Such purchases are necessary as a means of protection against an increase in commodity prices between the time premium notes mature and indemnities are paid.

Storage was paid in 1943 in the amount of \$411,844 but was offset by storage recoveries from insured farmers in the amount of \$469,564 which resulted in a credit balance of \$57,720 in 1943.

When an indemnity claim is approved by the Corporation, a certificate of indemnity for the commodity amount of the claim is issued to the insured. He may either hold the certificate in anticipation of a more favorable market on which to have the Corporation establish the cash equivalent and liquidate the certificate prior to maturity date or use it as collateral for a Commodity Credit Corporation loan if such loans are available. The

Corporation disposes of its inventories to the extent of outstanding certificates of indemnities as of the maturity or expiration dates of the certificates, at which time the Corporation's storage costs stop. The certificates, however, continue to accrue storage in favor of the Corporation until such time as they are surrendered to the Corporation for cash settlement. Numerous 1942 certificates of indemnity were not surrendered for settlement until 1943, consequently storage accrued to the Corporation in an unusually large amount. If the present level of commodity prices continue to prevail, it is believed that 1946 certificates will not be long outstanding. Therefore, since storage recoveries in 1946 will be relatively small, it is estimated that \$280,000 will be needed for commodity storage expenses.

(4) The sum of \$6,200,000 is estimated as needed in 1946 to effectively operate the expanded programs of insurance in the states and counties. In order to properly administer the program in the field, it has been deemed advisable for the Corporation to maintain more direct control over insurance operations. In order to maintain effective control over loss adjustments and indemnity payments, and to obtain accurate information with respect to all program expenditures, it has been decided that the Corporation should organize and maintain its own organization in the field. Special emphasis will be placed on accurate adjustment of losses and adjusters will be employed and trained to perform this work under adequate supervision. It is contemplated that the seeded acreage will be obtained shortly after planting, and insured crops inspected at least once during the growing season. Some additional cost in administration will result from this change in operation. It is believed, however, that premiums will be established and applied on a more equitable basis, and that indemnity losses will be accurately adjusted which should result in increased premium collections and substantial savings in indemnity costs.

The \$6,200,000 for 1946 consists of:

(A) State administration, sales promotion, loss adjustment; field work incident to yield and rates, collecting pre- miums and farm inspection.	
Personal services	(549.7 man-years) \$1,310,774
Other expenses	689,226
Total	2,000,000

(B) Agricultural Adjustment Agency:

The work performed by this Agency for the Corporation will consist of field work incident to the collection of data for use in establishing crop insurance yield and premium rates; training and instruction incident to contract sales; verification of and reporting seeded acreages; processing and recommending approval of applications; and collecting premiums and receiving and transmitting notices of losses \$2,800,000

(C) Insurance contract sales expense:

A greater emphasis will be placed on obtaining maximum participation by farmers in the new program. Insurance contract sales expense will be directly related to the volume of participation obtained. A specified rate will be paid for each application received and accepted. This estimate contemplates that about 507,500 insurance contracts will be accepted..... 1,400,000

Total 6,200,000

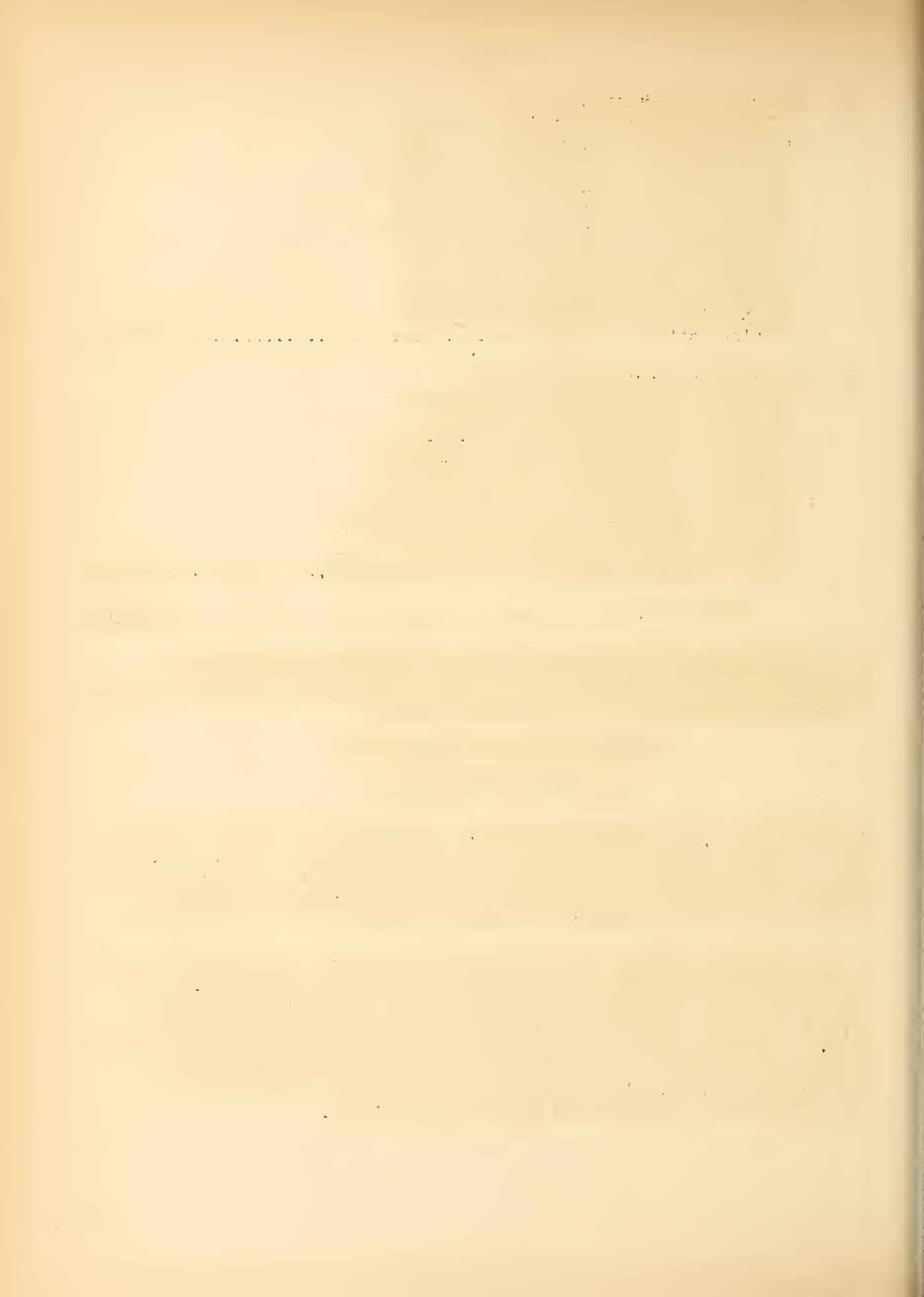
(5) An amount of \$25,000 is estimated as the amount needed by the Treasury Department to cover the costs incident to the handling of collection and disbursement items for the Corporation.

Recommended Language for 1946

FEDERAL CROP INSURANCE ACT

Administration and operating expenses: For expenses necessary to carry out the Federal Crop Insurance Act approved February 16, 1938, (7 U. S. C. 1501 - 1518), as amended, \$7,984,900, including personal services in the District of Columbia and elsewhere, printing and binding, purchase of books of reference, periodicals, and not to exceed \$700 for newspapers.

The recommended language for the fiscal year 1946 is practically the same as the appropriation language approved for the 1943 fiscal year. The authority for the purchase of lawbooks, which was included in the 1943 fiscal year language, has been excluded in the recommended language for 1946. A limitation has been provided in the recommended language for the purchase of newspapers. This provision was made to conform with the requirements of Sec. 704 of the Act of September 21, 1944, Public Law 425 (Department of Agriculture Organic Act of 1944).



WORK UNDER THIS APPROPRIATION

Objective: The purpose of the Act is to promote the national welfare by alleviating the economic distress caused by crop failures, by maintaining the purchasing power of farmers, and by providing for stable supplies of commodities.

Problem and Significance: Each year throughout the United States thousands of farmers suffer partial or total loss of their crops due to causes beyond their control. Such losses have caused economic distress among the farmers and in many cases have resulted in the loss of their farms. Such a condition often causes farm families to become a burden on society and contributes to a shifting of farm population to cities.

Federal crop insurance is the only available source for the farmers to obtain all-risk insurance against such unavoidable losses. Private companies offer insurance against specific risks only, such as hail and fire. Only a small percentage of the Corporation's losses have occurred due to these causes. The principal causes of losses under Federal crop insurance contracts have been the result of drought, floods, winterkill, excessive moisture, and insect infestation.

Plan of Work: To alleviate this situation, and pursuant to the Federal Crop Insurance Act of 1938, as amended (52 Stat. 72), all-risk crop insurance was available to producers of wheat for a period of five years, 1939-1943, and to producers of cotton for two years, 1942-1943. Public Law 551 approved December 23, 1944, authorized the Corporation to insure wheat, cotton and flax crops beginning with 1945 and to insure corn and tobacco crops in 1945 on a trial basis in not to exceed 20 representative counties each. After the 1945 crop year, authority was granted to insure, on a trial basis, not to exceed three additional crops each year, provided sufficient actuarial data are available. It is contemplated, therefore, that insurance will be offered in 1946 to producers of wheat, cotton and flax, and in addition, insurance will be offered to producers of corn, tobacco and three other crops, the selection of which will be dependent upon the sufficiency of actuarial data available, on a trial basis.

Centralization of program development, and management control will be in the principal office of the Corporation located in the District of Columbia.

Program execution will be decentralized to branch offices located at strategic points in the field so as to service and facilitate program operations. These offices will accept all contracts of insurance on behalf of the Corporation; calculate the amount of all insurance premiums; receive, audit, and deposit all cash collections; prepare and certify all field payrolls; audit and pay all approved indemnity claims; and maintain accurate books of account for all transactions.

The local administration of the insurance programs will be divided between the State and county agricultural conservation committees of the Agricultural Adjustment Agency and the State office of the Corporation. Corporation employees will adjust all losses and will make individual farm inspection.

STATUS OF PRIOR YEAR PROGRAMS

Wheat Crop Insurance Program

The attached statement "Volume of Work - Wheat Crop Insurance Program" as of June 30, 1944 summarizes operations in the wheat insurance program for the five years 1939 - 1943 inclusive.

The number of insured farms shows an increase each year with the exception of 1943. The decrease in 1943 is believed due primarily to the inauguration of a three-year contract. Applications decreased in both 1942 and 1943 due to a change in policy. Beginning with the 1942 program, one application covered all farms within a county operated by one farmer.

The number of applications received are in excess of the number of contracts remaining in force. This is attributal to no wheat seeded cases, cancellations, and rejections.

Cotton Crop Insurance Program

The attached statement "Volume of Work - Cotton Crop Insurance Program" as of June 30, 1944, summarizes operations in the cotton insurance program for the two years 1942 - 1943.

There was but little difference in participation between the 1942 and 1943 programs.

Volume of Work - By Crop Years
Wheat Crop Insurance Program
As of June 30, 1944

	1939 Actual	1940 Actual	1941 Actual	1942 Actual	1943 Actual
1. Number of applications received.	165,775	379,710	420,940	393,867	375,268
2. Number of farms covered by applications received	165,775	379,710	420,940	504,047	487,663
3. Number of contracts in force	165,775	360,596	371,390	323,260	290,950
4. Number of farms covered by contracts in force	165,775	360,596	371,390	400,043	357,733
5. Premiums collected (bushels)	6,670,315	13,796,798	12,643,051	8,769,715	8,035,124
6. Insured Acreage	7,010,390	12,754,834	11,734,263	9,631,265**	8,148,800**
7. Insured production (bushels)	60,826,075	108,284,574	104,306,380	88,063,150	75,264,000**
8. Loss claims approved for payment	55,932	112,762	130,774	108,368	133,076
9. Indemnities approved for payment (bushels) . .	10,163,899	22,898,147	18,857,243	10,574,927	13,209,955
10. Number of states writing crop insurance. . .	31	33	36	36	36
11. Number of counties writing crop insurance. .	1,289	1,436	1,463	1,602	1,645
12. Number of states for which yield and rate data established	36	36	36	36	36
13. Number of counties for which yield and rate data established	1,810	1,820	1,822	1,918	2,017

The difference between applications received and contracts in force is due to cancelations, rejections, and no wheat seeded cases.

During the 1939, 1940, and 1941 programs a separate contract was written for each farm. Beginning with the 1942 program, one contract was written covering all of the farms in one county owned or operated by one person.

** Estimated

Administration of Federal Crop Insurance Act

Volume of Work - By Crop Years Cotton Crop Insurance Program As of June 30, 1944

	1942 Actual	1943 Actual
1. Number of insurance or production units insured.	169,072	164,998
2. Premiums collected (pounds of lint).	31,435,750	30,744,370
(bales)	62,872	61,489
3. Insured acreage (gross).	2,816,462	2,690,279**
4. Insured production (bales of lint cotton).	852,744	808,975**
5. Loss claims approved for payment	47,744	40,632
6. Indemnities approved for payment (pounds of lint).	52,536,269	56,800,979
(bales)	105,073	113,602
7. Number of states writing crop insurance.	18	18
8. Number of counties writing crop insurance.	930	901
9. Number of states for which yield and rate data established	19	19
10. Number of counties for which yield and rate data established	997	993

** Estimated

PENALTY MAIL

Section 2, Public Law 364, 78th Congress
(Allotment to Federal Crop Insurance Corporation)

	<u>Category 1</u>	<u>Category 2</u>	<u>Total</u>
1945	- -	\$458	\$458
1946	\$37,500	83,498	120,998
Change	+37,500	+83,040	+120,540**

** [Note.--Budget amendments submitted for funds required to administer the crop insurance program include \$120,600 for costs of FCIC mailings under Section 2, Public Law 364, which is in addition to \$398 included therefor in the regular Budget on the basis of continued liquidation, making a total of \$120,998 for 1946. The additional \$120,600 is offset in part by a \$60 decrease reflected in the regular Budget on the basis of continued liquidation; thus there is a proposed increase of \$120,540 above 1945 estimated mailing costs.]

Category 1. Consists of leaflets and other publications to be mailed to farmers outlining and containing information relative to the insurance protection available to them through the reinstatement of the crop insurance program.

Category 2. Consists of notices to farmers relative to their yield and premium rates; amount of individual premiums due the Corporation; and crop insurance regulations and contract acceptance; and administrative and operational mailings in connection with the operations of the Headquarters and field offices of the Corporation.

The increase of \$120,540 for 1946 will be needed for the additional mailings incident to the operation of the expanded program of insurance. This increase of \$120,540 is broken down as follows:

	<u>Estimated no. of units</u>	<u>Estimated cost</u>
Category 1:		
Informational mailings	2,500,000	\$37,500
Category 2:		
Correspondence and notices to farmers	5,495,000	82,418
Administrative and operational mailings:		
<u>Headquarters</u> (approx. 400 pieces of mail per week--52 weeks)	20,000	300
<u>Field</u> (approx. 1,000 pieces of mail per week--52 weeks)	52,000	780
Total, Category 2	5,567,000	83,498
Estimate, 1946	8,067,000	\$120,998
Less 1945 estimated mailing cost		
based on liquidation		-458
Increase, 1946		<u><u>+\$120,540</u></u>

SOIL CONSERVATION SERVICE

CHANGES IN LANGUAGE

(a) Preamble

The estimates include proposed changes in the language of this item as follows (new language underscored, deleted matter enclosed in brackets):

To carry out the provisions of [an Act entitled] "An Act to provide for the protection of land resources against soil erosion, and for other purposes", approved April 27, 1935 (16 U. S. C. 590a-590f), which provides for a national program of erosion control and soil and [moisture] water conservation to be carried out directly and in cooperation with other agencies, including the employment of persons and means in the District of Columbia and elsewhere [, but] (but not to exceed [\$1,089,837] \$870,000 may be expended for personal services in the District of [Columbia.] Columbia), purchase of books and periodicals, maintenance, repair, and operation of one passenger-carrying automobile in the District of Columbia, furnishing of subsistence to employees, training of employees, and the purchase and erection or alteration of permanent buildings: Provided, That the cost of any building purchased, erected, or as improved, exclusive of the cost of constructing a water supply or sanitary system and connecting the same with any such building, shall not exceed \$2,500 except where buildings are acquired in conjunction with land being purchased for other purposes and except for eight buildings to be constructed at a cost not to exceed \$15,000 per building: Provided further, That no money appropriated in this Act shall be available for the construction of any such building on land not owned by the Government: [Provided further, That during the fiscal year for which appropriations are herein made the appropriations for the work of the Soil Conservation Service shall be available for meeting the expenses of warehouse maintenance and the procurement, care, and handling of supplies, materials, and equipment stored therein for distribution to projects under the supervision of the Soil Conservation Service and for sale and distribution to other Government activities, the cost of such supplies and materials or the value of such equipment (including the cost of transportation and handling) to be reimbursed to appropriations current at the time additional supplies, materials, or equipment are procured from the appropriations chargeable with the cost or value of such supplies, materials, or equipment:] Provided further, That in the State of Missouri where the State has established a central State agency authorized to enter into agreements with the United States or any of its agencies on policies and general programs for the saving of its soil by the extension of Federal aid to any soil conservation district in such State, the agreements made by or on behalf of the United States with any such soil conservation district shall have the prior approval of such central State agency before they shall become effective as to such district, as follows:

The first change in the language of the preamble deletes the words "an Act entitled" for the sole purpose of shortening the item.

The second change deletes the word "moisture" and inserts in lieu thereof the word "water" which is more descriptive of the work being performed.

The third change encloses in parenthesis the phrase "but not to exceed [\$1,089,837] \$870,000 may be expended for personal services in the District of Columbia" in order to improve the reading of the item.

The fourth change deletes the provision for maintenance of warehouses and distribution of supplies to other Government activities. This authority is now contained in Section 302(b) of the Department of Agriculture Organic Act of 1944, Public Law 425, approved September 21, 1944, and its retention in the annual appropriation item is therefore unnecessary.

(b) Soil Conservation Research

Appropriation Act, 1945	\$1,225,000
Budget estimate, 1946	<u>1,063,000</u>
Change for 1946:	
Overtime decrease	-161,800
Other decrease	<u>-200</u>
	<u>-162,000</u>

PROJECT STATEMENT

Project	1944	1945 (estimated)	1946 (estimated)	Increase or decrease
1. Erosion control investigations	\$644,220:	\$653,700:	\$653,500:	-\$200 (1)
2. Drainage and water control investigations in humid areas	281,299:	273,100:	273,100:	- -
3. Irrigation and water conservation investigations in western areas	141,905:	136,400:	136,400:	- -
4. Overtime costs	163,738:	161,800:	- -:	-161,800
Unobligated balance	6,579:	- -:	- -:	- -
Total estimate or appropriation	<u>1,237,741:</u>	<u>1,225,000:</u>	<u>1,063,000:</u>	<u>-162,000</u>

INCREASES OR DECREASES

The decrease of \$162,000 in the Soil Conservation Research item for 1946 consists of the \$161,800 decrease for overtime and a decrease of \$200 due to a net reduction in the estimates for the rental of office space.

CHANGES IN LANGUAGE

The estimates include a proposed change in the language of this item as follows (new language underscored, deleted matter enclosed in brackets):

Soil conservation research: For research and investigations into the character, cause, extent, history, and effects of erosion, soil and moisture depletion and methods of soil and [moisture] water conservation (including the construction and hydrologic phases of farm irrigation and land drainage); and for construction, operation, and maintenance of experimental watersheds, stations, laboratories, plots, and installations, [\$1,225,000] \$1,063,000.

It is proposed to delete the word "moisture" and insert the word "water" which is more descriptive of the work being performed under this item.

WORK UNDER THIS APPROPRIATION

Objective: The work is concerned with the development of efficient and practical soil and water conservation methods and practices and sound land-use principles to serve as standards for the conservation operations program of the Soil Conservation Service and the programs of other Federal and State agencies which relate to conservation work and land-use.

The Problem and Its Significance: If farming is to be successful and soil erosion and depletion eliminated, land must be used for the purposes to which it is best adapted. Exploitive farming practices are wasteful and expensive and should be replaced by effective soil and water conserving practices that are based upon facts established by research and not upon estimates or guesses. Research into the character, causes, extent, and effect of erosion and soil and water depletion has indicated promising new practices and farming methods to be used for the protection of the land. However, erosion and land-use problems vary everywhere, therefore, established practices must frequently be modified to meet peculiar local conditions. New, improved, or adapted practices must be tested and proved effective and practical by field trials and tests before they can be applied with assurance over areas varying in soils, climate, and agricultural practices.

It is vital to the welfare of the nation that its land be kept permanently productive. Experience has shown that soil and water conservation methods and practices, as developed through research and proved by field tests, protect the soil and pay dividends in the form of increased and sustained per-acre crop yields.

The research work of the Soil Conservation Service is specifically directed at problems which arise in field operations of the Service and is an integral part of the service rendered to conservation, irrigation, and drainage districts and to other Federal and State agencies. There is a continuing need for intensive and wide-ranging

conservation research as there are many erosion control, water disposal and use, and land-use problems requiring further study and experimental tests. This research is important because the success of the soil conservation program is dependent upon its technical excellence. Practically all of the conservation research work conducted in the United States by the Federal Government which is directly aimed at erosion control and water conservation on farm lands is financed under this appropriation.

Land repeatedly used for cultivated crops is subject to severe wind and water erosion. Farming can be safely done only by use of effective conservation practices. A large part of the present research work deals with the development of means of field application of conservation principles in connection with the present increased acreage planted in corn, cotton, soybeans, peanuts, potatoes, and other cultivated row crops.

Much information developed in connection with the regular research program of the Service has been found to be of vital importance to the military and naval authorities. At their request and with their cooperation, several lines of research have been intensified and extended in order to provide special information required.

General Plan: In the Soil Conservation Service research and operations are so coordinated as to provide for immediate application of special research findings. No research is undertaken except on problems directly affecting the soil and water conservation program. The development and improvement of the conservation program is accomplished in four distinct steps as follows:

- (a) Laboratory and plot work to develop basic information
- (b) Experiment station field scale trials of practices
- (c) Adaptation and testing of practices for application over extensive areas often involving development or modification of farm equipment
- (d) Incorporation of new practices and methods in the soil conservation districts program

The first and second steps are primarily the function of "Soil Conservation Research", the third step is carried out jointly by "Soil Conservation Research" and "Soil Conservation Operations", while the fourth step is primarily the function of "Soil Conservation Operations".

The program of research is cooperative with State Experiment Stations and other agricultural agencies of the Department and the States. The State agencies, by agreement with the Secretary of Agriculture, cooperate with the Soil Conservation Service in the conduct of the work, and in most cases furnish land, laboratories, office facilities, and technical assistance as part of their cooperations. The research work of the Service is correlated with that of the Agricultural Research Administration of the Department, thus avoiding duplication and assuring desirable cooperation with other research bureaus. As soon as the trend of results from a study can be perceived, measures promising to solve the problems involved are developed and tested.

Field tests are particularly important in developing sound programs in the conservation districts and for guiding technicians in the application of practices to the farms.

Examples of Progress and Current Program: Examples of recent accomplishments under this appropriation are cited by projects to show progress being made. Studies on which increased emphasis is now being placed are also explained.

General: Budget estimates under the "Soil Conservation Research" appropriation have heretofore been presented and justified under eight financial projects or functions. In order to more clearly present and justify the annual estimates, for the purpose of reducing accounting work, and because of the close relationship of the research work being carried on under some of the projects, it was determined advisable to realign and redesignate the research projects as follows:

Project Designations Prior to 1945	Revised Projects Effective F.Y. 1945		
	Erosion Control Investi- gations	Drainage and Water Control Investigations in Humid Areas	Irrigation and Water Conservation Investigations in Western Areas
1. Investigations of the principles involved in soil and water conservation, and methods for their practical application on the farm	\$645,800:	- -:	- -
2. Watershed investigations of the effect of land-use practices on run-off as related to the methods of control of erosion and floods	- -:	\$266,100:	\$39,800
3. Investigations of sedimentation resulting from erosion .	- -:	14,000:	27,100
4. Investigations of geographic and climatic factors related to erosion	12,300:	- -:	- -
5. Investigations of the economics of soil and water conservation	32,000:	- -:	- -
6. Investigations of erosion-resisting plants of economic value	62,300:	- -:	- -
7. Farm irrigation investigations	- -:	- -:	89,400
8. Farm drainage investigations	- -:	36,200:	- -
Total	752,400:	316,300:	156,300

This new alignment of financial projects corresponds more closely with the present functional organization of the research branch of the Service, clearly identifies distinct types of soil and water conservation research being carried on, and brings into the financial picture more clearly the water research responsibilities of the Soil Conservation Service.

Erosion control investigations: The work carried on under this project includes the development of agronomic and vegetative means of controlling erosion, improving productivity, and conserving soil moisture; development of improved tillage techniques; studies of the effect of farm crops, cropping systems, climate, and wind upon soil erosion and water loss, and development of control measures; studies of crops and cropping methods which are adapted to areas that are too steep for ordinary farming and upon which erosion conditions are so critical that specialized protective measures are required; and investigations of the effects of conservation farming upon the farmers' income and living standards.

Field and laboratory studies are being carried on to determine and evaluate for specific areas the properties of soils which influence their erodibility, permeability, moisture relations, and susceptibility to deterioration by erosion. These studies are necessary since the soil itself varies widely and is one of the fundamental factors governing the amount of run-off and erosion taking place under any given condition. Studies are being conducted on soil conservation experiment stations and cooperating farms to determine the effectiveness of different plant covers in reducing soil erosion and water run-off, to determine the best methods of establishing plant covers on eroded areas, to develop cropping practices and methods of managing uncultivated crops and pastures in order to conserve soil and water, and to develop and improve such tillage practices as contour and basin listing, terracing, and furrowing, which are designed to increase surface storage of water and retard the rate of its flow.

The most common limiting factor in plant growth and yield is water. Under average conditions a crop requires about 20 inches of water to be placed in the soil in which it grows. For extra good yields, and the utilization of reserve or added fertility elements, even more water is needed. This is water that enters the root zone of the plants--not total rainfall, of which from one-third to one-half is ordinarily lost as run-off. In Iowa, Nebraska, Illinois and other areas, it has been found that each additional inch of water above average will produce from 5 to 7 more bushels of corn per acre. Even in areas of high rainfall such as the Atlantic Seaboard, crops during 35 to 57 days per year have been shown to be in need of more water than that provided by rainfall.

Methods of holding a much larger proportion of the water and storing it in the soil are being developed for many areas and include such practices as mulching, subsurface tillage, contour tillage, application of organic matter, water spreading, and winter cover crops. Results from field trials last year showed increases in yields ranging from 10 to 20 percent as a result of such practices.

Considerable progress has been made in the use of subsurface tillage and the use of crop residue mulches to increase water intake of the soil, reduce run-off, and control wind and water erosion. Improvements in tillage and harvesting implements and methods have given better placement of residues and less clogging and dragging of trashy materials in tillage operations. Better timing of farming operations and seeding has improved the control of weeds and volunteer grain. Range management and pitting and furrowing of range lands have resulted in increased growth of desirable range grasses.

Investigations are being carried out which are designed to direct attention to, test, and improve planting methods of specialized erosion-resisting crops of high economic value which are adapted to particular soil and climatic conditions. Such crops provide an additional source of income, help put the farmer on a self-sustaining basis, and relieve the pressure on other cultivated areas now in intensive use.

Studies are being conducted of practices necessary to control wind erosion. Although the area of land affected by severe wind erosion is much less than that affected by water erosion, the effect is more immediate and disastrous. Improved methods of establishing barriers, windbreaks, and vegetation to prevent wind erosion are being developed. Wind tunnel studies are contributing valuable information on the causes and manner of soil movement by wind.

Studies are being carried on to determine and evaluate the climatic and physiographic factors which cause erosion and to secure a better understanding of climate and weather variation in relation to plant growth and cropping practices. Local variation in temperature in the root zone of plants and in the temperature and humidity surrounding the aerial portions of the plants are important and often decisive factors in the survival and growth of the plant. Records of rainfall, air and soil temperature, humidity, evaporation, and wind movement are secured regularly from established points in the areas where these special studies are being conducted. From records of this type it is possible to determine probability of drought, precipitation, or frost damage at certain time intervals and geographical locations. It is also possible to determine the most favorable locations for various kinds of crops, to extend the range of present types of crops, and to determine the probability of success in planting, harvesting, or processing crops having rigid moisture and temperature requirements.

One of the most effective means of protecting the soil of cultivated land is to provide a protective covering of organic matter on the surface and improve its physical condition by incorporating organic matter into the soil. Studies on the rates and causes of decomposition of organic matter are being carried on to determine how to use it more efficiently and for more purposes in conservation practices. Rapid decomposition gives quick release of plant nutrients; slow decomposition gives maximum soil conditioning and protection from erosion, especially from wind erosion. Wide use of this technique is made especially in orchard and in the western wind erosion areas.

Studies are being made to determine the financial benefits of conservation farming from the point of view of the farmer. Since most conservation practices involve installation costs or land-use changes, the effect on the farmer's immediate and future net income must be considered. The following examples are illustrative of the type of economic information that is useful in conservation land-use planning:

(a) A three-year study of wheat yields in Eastern Oregon showed that wheat yields declined at an accelerating rate with loss of topsoil as topsoil depths were reduced below 15 inches. For topsoils of less than 6 inches in depth, wheat yields were 1.7 bushels per acre lower for each inch of soil lost; whereas on 20-inch topsoils, yields were reduced by 0.6 bushel per acre for each inch of soil loss. Soil erosion becomes more serious as it progresses not only because the rate of erosion is accelerated but also because its effect on crop yields increases with loss of soil. Average soil losses in the Wild Horse area in Oregon indicate that the loss of production and income on a representative wheat farm in a ten-year period amounts to \$1,315 or \$131 per year.

(b) Crop yield comparisons on 237 farms in 20 soil conservation districts in Iowa for crops grown on the contour and not on the contour on the same farm and in the same years show an average per-acre advantage for contouring over the three-year period 1942 to 1944, of 6.2 bushels of corn, 2.7 bushels of soybeans, and 5.4 bushels of oats.

(c) In Southern Maryland, hillculture tobacco studies carried out on critically erodible slopes have shown increased yields of \$118 per acre through use of ridged rows with 1 percent row grade, while straw mulch used in lieu of ridged rows and without regard to slope has given an increase of \$114 per acre. Considerable progress has been made in the study of improved ridge row methods and of cheap and practical ways of preparing and applying mulch. Corn and lima beans have also responded to ridge row culture.

Information secured from studies on the causes and rates of erosion for different soils and under different climatic influences has furnished the basic data for establishing differential rates of soil decline within the United States and makes it possible to establish ratings for the many basic resource areas of the country on a "Time Priority" basis as a guide to concentration of effort in erosion control operations.

The experimental results secured from all studies are reported as published scientific papers in science journals, or as State or Federal bulletins, as rapidly as conclusive evidence is available. In addition to the current flow of scientific papers, local press and radio releases and mimeographed or other processed releases, the ten original Conservation Experiment Stations under this project have compiled complete and comprehensive USDA Technical Bulletins covering ten full years of conservation studies. These bulletins furnish a factual basis for the conclusions upon

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One of the first studies of its kind has been an analysis of the effects of soil erosion on navigation in Chesapeake Bay, and especially of sediment deposited in Baltimore Harbor. It was found that in the past 100 years the Federal Government has removed more than 111 million cubic yards of sediment from the harbor at a cost of nearly \$17,000,000. A large amount, in addition, has been spent by the city and by various private interests. The current expenditure for dredging is some \$150,000 annually. On the basis of reducing dredging cost, without considering the large benefits to farmers, an effective erosion-control program in this area would pay for itself in a few years. Further studies in this field should include a preliminary investigation of silting problems in the more important American harbors, as well as an analysis of the methods of harbor maintenance and a study of possible reduction of dredging costs through sediment and erosion control on the watersheds.

Studies are being conducted to develop improvements in the design, construction, operation, and maintenance of drainage works. Investigations are under way to determine the soil limitations for mole drains, including the effect of the shape of the mole upon the life and efficiency of the drain, and the most effective size, as well as the best depth and spacing for moles in different soils. Mole drainage affords a cheap and effective method of obtaining drainage where suitable soil and outlet conditions exist.

In several of the peat and muck areas of the country, studies are being carried on to determine the effect of drainage on such soils.

An effective dragline attachment has been developed for a farm-size tractor, for use in maintaining open drainage ditches where this type of drainage system has been installed. Under present conditions of labor shortage, maintenance of such open ditches has been one of the greatest limitations on maintenance work and effective operation of this type of drainage. When the machine is not in use on ditch maintenance, the attachment can be removed and the tractor made available for other farm work.

Data have been compiled on the amount of agricultural land requiring drainage in the States of Delaware, Maryland, Virginia, and North Carolina in connection with postwar plans of agriculture. This work should be continued until the humid area of the United States has been covered.

The compilations and analysis of rainfall and run-off records were continued during the past year in cooperation with the State Agricultural Experiment Stations in order to make this information available for publication and distribution to interested field projects for use in planning soil and water conservation measures, and for the preparation of reports on flood-control projects.

Additional information was obtained on the effectiveness of erosion-control practices, such as contouring and surface mulching combined with

sub-surface tillage, on the conservation of water for crops as well as for reducing the run-off of incipient flood waters. Information was also obtained on the effect of snow and frost upon soil moisture and flood flows, and on possible measures to be used in reducing incipient flood stream flow. Research studies at East Lansing, Michigan, relating to temperature, rate of snow melt, and frost conditions furnish valuable information on the effect of these factors upon flood flows which will be useful in planning flood control and other postwar projects.

Irrigation and water conservation investigations in western areas: The work being conducted under this project includes the development of engineering principles and methods of controlling and conserving irrigation water supplies and preventing erosion, siltation, and accumulation of alkali; studies of water application methods; development and improvement of farm irrigation systems and structures; and snow survey investigations and analyses to determine available irrigation water supplies.

In the season 1943-44, further evidence was obtained in Southern California of the value of water spreading for storage underground. In the Lytle Creek and Santa Ana River areas, ground-water levels were generally raised above the heights of the previous year as a result of spreading operations. The previous studies carried out in this type of work have shown such excellent effectiveness from underground storage that the spreading of some 400,000 acre-feet of off-season water is being planned in the Central Valley Irrigation Project in California. This work will be cooperative between the Bureau of Reclamation, the Bureau of Plant Industry, Soils, and Agricultural Engineering, the State of California, and two major water storage districts, with the Soil Conservation Service acting as the coordinating agency.

The war food program has caused an abnormal draft upon all sources of irrigation water in the Western States. This has resulted in an unusual load upon the pumping capacity of the irrigated regions. Conservative estimates indicate that the pumping plants of the eleven Western States have a combined capacity of more than 50 million gallons per minute. This amounts to a daily yield of 200,000 acre-feet of water, sufficient for a thorough irrigation of half a million acres. Because of the heavy load placed upon these facilities, additional studies have been carried out on the efficiency of pumping for irrigation. Determinations of the effective working capacity of the individual plants constitute an essential part of such a program. The method developed by this Service to determine the discharge of the pump by means of a propeller-type current meter has continued to find increasing application. Under conditions of heavy use of irrigation water it has been found essential to measure canal and ditch diversions that are being made for each water user. The use of the large and small Parshall flumes has increased notably, especially in Colorado where excellent results have been reported from the general application of this measuring device.

Further work has been carried out in Utah on the experimental lining of irrigation canals with native clays. The results have shown an appreciable reduction of water loss on the more permeable soils, and a cooperative bulletin reporting this work has been published by the Utah

Experiment Station. A recent computation based on the quantity of water used in 1939 in the 17 Western States showed a total loss of 35 million acre-feet of water by seepage and evaporation from all canals and irrigation ditches. This high loss warrants study by this Service of the best and most economical methods of ditch lining, considering all materials which may be available for this purpose.

In California, Utah, and a few other western States, investigations are being carried on, principally in cooperation with State institutions, to determine the efficiency of various methods of applying irrigation water. Effective application of irrigation water is extremely important where water supplies are limited.

During the past year a considerable part of the work of the staff of the Cooperative Hydraulic Laboratory at the California Institute of Technology, Pasadena, California, was directed to war research for the Army and Navy. Most of this work was of a highly confidential nature. One project involved a model study for the Navy on the development of new harbor facilities at San Pedro. Additional laboratory flume experiments were made on the best methods to use in releasing density currents to prevent deposition of fine sediment in reservoirs. A field study was conducted in cooperation with the Southern California Edison Company of temperature density currents in Shaver Lake, one of the company's power storage reservoirs in the Sierra Nevada Mountains, to develop better methods of operation.

Work was continued in developing designs of water-stilling basins to be placed at the end of spillway chutes located on irrigation ditches or drainage channels to reduce localized scour of sediments and prevent the undermining and weakening of these hydraulic structures. The results of these investigations have been made available to technicians of soil conservation districts, irrigation district engineers, highway officials, and engineers of the Southern Pacific Railroad. This railway system last year spent over \$800,000 for erosion control, mainly in channels along the right-of-way located in the San Bernardino District, California.

Throughout the irrigated region much of the irrigation water is derived from melting snow on the mountain range. It is important that before planning his crops the irrigation farmer have information regarding the condition of the snow pack and the probable supply of water held in the snow fields which will later become available for irrigation. Portions of the survey work and methods are still in the developmental stage. Further studies must be made of the factors which determine run-off. The research phase of this water-supply forecasting includes providing highly specialized technical guidance in locating and laying out snow courses, evaluating the data gathered by snow surveys, and preparing reports of findings. Thirty-four regular mimeographed releases of reports on water-supply conditions were released during the past season. Data were also broadcast by radio and published in a great number of news releases.

The contrast between the water-supply conditions prevailing in 1943 and 1944 in a number of important regions of the western irrigated country

has demonstrated the value and timeliness of the information given by snow surveys. Whereas, in 1943 in the Pacific Northwest, mountain snowfall was heavy and water facilities and storage reservoirs had to be operated so as to reduce flood crests, the same section of the country in the winter of 1944 had been faced with deficient snowfall. This has resulted in abnormally low water stages in most of the important streams. All water users have been warned of the need for exceptional economy. This advance information had made it possible to regulate plantings so as to avoid serious crop losses.

Cooperative studies have been continued on the drainage of irrigated lands in the Kootenai River Valley in Northern Idaho and on the study of drainage conditions in Imperial County, California. The Idaho investigation involves the effect of high fluctuating ground-water conditions as influenced by the operation of a Canadian hydro-electric power plant on the Kootenai River. This work has been carried out in cooperation with the United States and Canada. The Imperial County study has been carried on with the Imperial Irrigation District and the Farm Credit Administration and is intended to develop information that will make possible a more efficient operation of the drainage installations that have been established in portions of the irrigated areas in the District. At the present time some 87,000 acres of land are idle mainly because poor drainage has resulted in the accumulation of alkali salts toxic to commercial crops. In addition, it is estimated that part of the crop land is not producing to full capacity for the same cause. Preliminary results of the exploratory studies have been very promising, and it is believed that methods of improved operation can be worked out as a result of the experimental work which is now under way.

(c) Soil Conservation Operations

Appropriation Act, 1945	\$28,340,000
Budget estimate, 1946	28,636,800
Change for 1946:	
Overtime decrease	-3,964,700
Increase	<u>+4,261,500</u>
	<u>+296,800</u>

PROJECT STATEMENT

Project	1944	1945 :(estimated):	1946 :(estimated):	Increase or decrease
1. Soil and water conserva-	:	:	:	:
tion operations in conser-	:	:	:	:
vation districts and coop-	:	:	:	:
eration with other Federal:	:	:	:	:
and State agencies:	:	:	:	:
a. Soil and water conser-	:	:	:	:
vation operations in de-	:	:	:	:
monstration projects ... :	\$409,615:	- -:	- -:	- -
b. Soil and water conser-	:	:	:	:
vation operations in con-	:	:	:	:
servation districts or-	:	:	:	:
ganized under State laws :	17,183,741:	\$21,890,200:	\$26,390,200:	+\$4,500,000(1)
c. Cooperation with other:	:	:	:	:
Federal and State agencies:	551,613:	1,256,800:	1,018,300:	-238,500(2)
Total, Project 1	18,144,969:	23,147,000:	27,408,500:	+4,261,500
2. Operation of conservation:	:	:	:	:
nurseries for the furnish-	:	:	:	:
ing of plants for use in :	:	:	:	:
soil and water conservation:	:	:	:	:
operations	1,011,286:	1,055,000:	1,055,000:	- -
3. Overtime costs (includes:	:	:	:	:
overtime in allotments) . :	3,221,337:	3,964,700:	- -:	-3,964,700
Allotted to:	:	:	:	:
Bureau of Plant Industry,	:	:	:	:
Soils and	:	:	:	:
Agricultural Engineering :	:	:	:	:
(excludes overtime 1944,	:	:	:	:
\$19,778; 1945, \$22,268)	+157,980:	+173,300:	+173,300:	- -
Office of Production (ex-	:	:	:	:
cludes \$1,820 overtime)	+14,780:	- -:	- -:	- -
Unobligated balance	12,412:	- -:	- -:	- -
Total available	22,562,764:	28,340,000:	28,636,800:	+296,800
Transferred to:	:	:	:	:
"Salaries and expenses,	:	:	:	:
Office of Information"	+5,000:	- -:	- -:	- -
"Salaries and expenses,	:	:	:	:
Procurement Division,	:	:	:	:
Treasury Department" ..	+3,768:	- -:	- -:	- -
Prior year appropriation :	:	:	:	:
available in 1944	-42,729:	- -:	- -:	- -
Total estimate or	:	:	:	:
appropriation	22,528,803:	28,340,000:	28,636,800:	

INCREASES OR DECREASES

The net increase of \$296,800 in the Soil Conservation Operations item for 1946 consists of the \$3,964,700 decrease for overtime, and the following:

(1) An increase of \$4,500,000 to assist conservation districts with farm planning and application of soil and water conservation practices, and to provide specialized engineering services to those districts where sound conservation planning and proper land-use are dependent upon improvements in drainage and irrigation systems.

Objective: To protect the nation's soil resources and to improve their productive capacity, thereby assuring sustained per-acre yields, by providing farmers and ranchers in newly organized conservation districts and in those districts where only part-year or inadequate assistance was rendered in 1945, with such technical services and other assistance as is necessary to establish soil and water conservation practices and bring about sound land use.

The Problem and Its Significance: Despite the efforts of land owners and operators in 1114 districts covering 620,491,000 acres, and the relatively efficient use of resources made available to them, soil losses are on the increase in most parts of the nation. Valuable water resources are not being utilized. Flood damage and siltation of lakes, reservoirs, and harbors continue. In the interest of a permanent agriculture and the national welfare, soil and water wastage must stop. This can only be accomplished by farming land in accordance with its capabilities to produce, and by applying adapted soil and water conservation practices. It has been conclusively demonstrated that harmonizing land-use with its capabilities and applying soil and water conservation measures to the land result in increased and sustained per-acre crop yields. Every effort is being made to secure adoption of these practices by as many farmers and ranchers as possible.

The widespread adoption of these practices can best be, and is being, effectuated through cooperative effort with conservation districts which are local units of government organized under State laws for the specific purpose of assisting farmers and ranchers in solving their soil and water conservation and land-use problems. As of June 15, 1944, 1114 conservation districts had been organized in the United States. This was an increase during the previous twelve-month period of 212 districts as compared with the 156 estimated at the time the 1944 budget presentation was made. Analysis of the present trend indicates that by June 15, 1945, 1310 districts will actually have been organized, rather than the estimated 1190 shown in the 1945 budget explanatory notes, and that 1492 districts will be organized by June 15, 1946. These figures on the rate of district organization are indicative of the current interest in soil and water conservation work and what may be expected in the way of requests upon the Service for technical and other assistance.

The productive capacity of much of our good land is not being fully utilized because of inadequate water-disposal and use systems. The result is too intensive uses of less fertile lands which deteriorate rapidly. Wet lands, if properly drained, and poorly irrigated lands, if available water supplies were properly utilized, would not only produce increased yields but also would permit that steep lands subject to severe erosion when cultivated be placed or left in hay, pasture grasses, or woodlands; to avoid permanent damage to them. In many cases, erosion debris from steep areas now under cultivation shuts off natural drains and creates drainage problems. In the West, the topography of much land is such that land leveling is required if irrigation water is to be effectively utilized and the full production capacity of the land realized. Drainage and irrigation systems must be developed, reorganized, and improved as an integral part of the conservation program. Assistance with this work is urgently needed by individual farmers and by small groups of farmers in many soil conservation districts.

Plan of Work: As additional conservation districts are organized and request assistance from the Service in solving their soil and water conservation and land-use problems, technicians will be assigned to the districts. These technicians will make the necessary conservation surveys or soil inventories, help farmers and ranchers develop their conservation farming plans, and give guidance in the installation of practices necessary to conserve soil and water resources and increase or maintain production.

This assistance will be supplemented, in those districts where special drainage and irrigation problems exist, with specialized engineering assistance. In the case of drainage, the plan is to give assistance to farmers with the installation of farm ditches, tile drains, dykes, and other water control structures. Small groups of farmers will be provided assistance in constructing and improving proper outlets for their farm drains. Irrigation farmers will receive assistance with land leveling, relocation of ditches, installation of improved types of headgates, drops, and other water control structures, and other irrigation system improvements. Assistance with proper methods of water application and means of disposing of surplus water will also be furnished. Group facility work will include relocation and improvement of canals to provide better distribution and to prevent waste of water.

- (2) A decrease of \$238,500 due to incorporation within conservation districts of areas outside districts where funds were heretofore expended for carrying on conservation activities in cooperation with other Federal and State agencies.

CHANGES IN LANGUAGE

The estimates include proposed changes in the language of this item as follows (new language underscored, deleted matter enclosed with brackets):

Soil conservation operations: For carrying out preventive measures to conserve soil and moisture water, including such special measures as may be necessary to prevent floods and the siltation of reservoirs, and including the improvement of farm irrigation and land drainage, the establishment and operation of erosion conservation nurseries, the making of conservation plans and surveys, and the dissemination of information, \$28,340,000 \$28,636,800: Provided, That no part of this appropriation may be expended for soil and water conservation operations in demonstration projects /: Provided further, That any part of this appropriation allocated for the production or procurement of nursery stock by any Federal agency, or funds appropriated to any Federal agency for allocation to cooperating States for the production or procurement of nursery stock, shall remain available for expenditure for not more than three fiscal years/.

The first two changes propose to delete the words "moisture" and "erosion" and insert in lieu thereof the words "water" and "conservation", respectively, which are more descriptive of the work being performed under this item.

The third change deletes the provision for continuing available for not more than three fiscal years funds allocated for the production and procurement of nursery stock. This authority is now contained in Section 302(a) of the Department of Agriculture Organic Act of 1944, Public Law 425, approved September 21, 1944, and its retention in the annual appropriation act is therefore unnecessary.

WORK UNDER THIS APPROPRIATION

Objective: The work is concerned with providing direct technical and other assistance to farmers and ranchers with the preparation of conservation farming plans and the application of soil and water conservation practices, and with securing widespread adoption of sound land-use principles in order to assure preservation of the nation's soil resources, efficient use of available water supplies, increased and sustained per-acre crop yields, and protection of rivers, harbors, reservoirs, and highways from siltation and flood damage.

The Problem and Its Significance: Defense of the productive soil of the nation against misuse and wastage is an absolute requirement for the continued life of the nation. Generally speaking, land-use in the United States has not been guided by the capabilities of the land. As a result, erosion has made serious inroads causing a shrinkage of the tillable area of the country, a reduction in the fertility of the soil, diminished crop yields, and an increase in the cost of farm operations. Erosion, resulting from improper land-use, has virtually ruined for further cultivation approximately 50 million acres of United States crop land. Another 50 million acres have been damaged in varying degrees from moderately to severely. More than half the topsoil already is gone from 100 million additional acres, and the process is under way on a third 100 million acres. There are only

about 75 million acres of farm-lands in the country which are not subject to erosion, and this includes land now in crops, in pasture, and in woodland. Even these lands must be carefully managed if they are to remain permanently productive. Available measurements indicate that soil is being washed from the farm and ranch lands of the country at the rate of 3 billion tons per year. Costs to the United States in wasted soil, abandonment of farms, railroad and highway damage, reduced reservoir capacity, flood damage, and related losses amount to well over \$3,800,000 annually.

Wasteful methods of land-use must give way to conservation methods that will provide protection for the soil and improve the welfare of those living by the soil. The principal means of achieving adequate and permanent conservation of soil and water resources is to secure effective and widespread application of established methods of conservation farming. This can best be accomplished by community action with the assistance and guidance of trained technicians.

Expanded war-time food needs have required that farmers and ranchers produce unprecedented quantities of agricultural commodities. These demands for increased production must be met without undue wastage of our soil and water resources. There is no question that this country has sufficient good and potentially productive crop land which is capable of producing on a sustained basis, the food, fibre, and oils so urgently needed, if only it is used in accordance with its capabilities. We cannot continue to violate nature's laws. The farm plant, like any other productive machinery, requires great care in its management and upkeep. Adequate protection can be provided, for it has been clearly demonstrated that the application of soil and water conservation measures to farm and ranch lands results not only in increased per-acre crop yields, but in the preservation of the productivity of the soil. Every effort must be made, therefore, to secure widespread adoption of the system of farming land in accordance with its capabilities to produce, so that maximum and sustained crop yields may be assured.

The serious erosion problems which resulted from misuse of the land during and following World War I must obviously be prevented from recurring. Increased food production to meet war-time demands was generally accomplished in that period by plowing more acres. Later, agricultural expansion was continued in order to overcome (by volume production) the disadvantage of lower prices. As a result much land was plowed up that should have been left in grass or other close-growing vegetation or should have been given more adequate protection under cultivation. The consequence was the Dust Bowl, and the financial ruin and migration of thousands of farm families.

In many sections of the United States, drainage of wet lands is necessary to make farming profitable and to protect the soil from washing. Much serious crop damage and soil loss can be avoided if specialized engineering and other assistance with construction of adequate farm and small group drainage facilities is furnished to farmers.

Specialized engineering and other assistance is also needed by farmers and ranchers in the irrigated areas of the West where gainful farming is dependent upon conservation and proper utilization of available irrigation water supplies. The topography of many farms is such that proper irrigation is impossible without land-leveling. Others have poorly arranged irrigation systems. Better designed layouts will prevent waste of water, time, soil fertility, and topsoil. Authentic forecasts of irrigation water supplies are urgently needed by western farmers and ranchers so that they can safely plan the types and acreages of crops to plant.

Conservation farming practices, in addition to preventing erosion and conserving water in the soil, make a very definite contribution to flood control. By their action of holding soil and water on the land and retarding run-off of excess water they reduce the burden of stream-channel and downstream flood damage.

The General Plan of Work: The work carried on under this appropriation consists of (1) cooperating with conservation districts in combating erosion and land-use problems by providing assistance to farmers and ranchers of the districts with farm planning and the establishment on their lands of adapted soil and water conservation practices, (2) cooperating with other Federal and State agencies which are in a position to assist in establishing soil and water conservation practices and sound land-use on farms and ranches by providing such program assistance as they may request, and (3) maintaining nurseries for the propagation of planting materials needed for erosion control purposes.

The principal activity of the Service is, of course, that of rendering assistance to farmers and ranchers in conservation districts. These districts with which the Service cooperates are local units of government organized under State laws, are under the leadership of a State committee, and are responsible to the State legislatures. They are founded upon the sound principle of local initiative, local direction, and local control, and are formed only in response to the petition and favorable referendum vote of the land owners and operators who are carrying on agricultural operations within their proposed boundaries. In this way, the necessary basis has been laid for maximum exercise of initiative and responsibility by the farmers themselves.

Soil and water conservation and sound land-use are the common objectives of the conservation districts and the Soil Conservation Service. There is no question that these objectives can be realized most effectively and economically by cooperative effort with the districts. The Service is making available to districts the services of trained conservationists who give technical guidance to farmers and ranchers in the preparation of conservation farming plans and the establishment of conservation practices on their lands. Other assistance made available consists of the grant of conservation planting materials (trees, shrubs, vines and grass seeds) and the loan or grant of field equipment. The amount and type of assistance furnished to any district is governed by the district's needs and ability to make

the most effective use of it on the maximum number of farms and ranches. The district governing bodies determine the types of conservation work on which the assistance the Soil Conservation Service can make available will be used, and the priority of the farms and ranches on which work will be done.

Conservation farming means treating land in accordance with its needs and using it according to its capabilities—that is, for the crop it is best suited to produce, whether grains, vegetables, fruit, meat, milk, oils, or timber. The soil and water conservation and land-use measures that should be followed in order to secure proper land-use and conservation of soil resources, may be modified or controlled by other factors, such as the farmer's means, size of the farm or wartime demands for specialty crops; but the basic plans must be developed in accordance with such physical conditions as the kind of soil, degree of slope, the character and extent of erosion, and climatic conditions. These data are secured through a conservation survey or physical inventory of the land.

After the conservation survey has been completed and the needs and capabilities of the land of each individual farm have been determined, skilled and experienced farm planning technicians assist farmers in groups, and later individually, in developing conservation farming plans. These plans are based on the information secured from the conservation surveys and on the farmer's resources, his choice of crops, his type of farming, and many other economic, social, and personal factors. The combination of conservation practices chosen allows for the best possible use of the farmer's land, water supply, labor, and equipment, and his ability as a manager. The farm plan charts for a specific period of time, usually from 3 to 5 years, the type of use, cultivation, and plantings that are required to accomplish erosion and water control, water conservation, and proper land-use. For example, determination is made from information secured in the conservation survey as to the need for such soil and water conservation practices as strip-cropping, contouring, terracing, sodded waterways, pasture improvement, crop rotation, mulching, and water spreading, and the proper location for installation of these practices. Consideration is also given to the need for different crops and forage to meet feed requirements for present or contemplated livestock. These two broad types of information exemplify the physical and managerial factors which the farm planner and the farmer consider in developing the farm plan. After development of the conservation farming plan, assistance is furnished the farmer in execution of that plan, and may include furnishing available equipment and planting stock.

In those areas of the West where snow furnishes an important part of the water used for irrigation purposes, watershed snow surveys are conducted in cooperation with Federal, State, local, and private agencies to secure data on which dependable estimates of the probable run-off from the snow pack can be made. Forecasts of irrigation water supplies are then published and broadcast. Farmers rely on the forecasts to determine what types of crops to plant and whether the potential water supply will permit expansion of acreage to be cultivated. These forecasts are also of great importance to bankers, shippers, power companies or organizations, water supply systems, and flood control agencies.

In an effort to secure a more rapid and general adoption of soil and water conservation practices on as many farms and ranches as possible, especially in critical production areas which include large acreages of clean-tilled, soil-depleting crops, there is being conducted during a part of each year in all conservation districts and agricultural counties, in cooperation with other Federal, State, and local agricultural agencies; a "Widespread Application of Conservation Practices" program. It is based on the establishment of those conservation practices which the farmer can install with little or no additional use of labor and equipment and with minimum technical guidance, and which at the same time will contribute materially to the immediate increased productivity of the land and will protect areas where wartime production of certain crops gives rise to critical soil problems. These practices consist of such measures as contour tillage, seeding waterways and eroded areas which are damaging other lands, wind stripping, establishing cover crops, establishing new pastures and improving old ones, woodland protection, and utilizing crop residues for conservation purposes rather than burning them. For range lands such practices might include bringing herds into line with the long-time grazing capacities of the range, culling herds, deferred and rotation grazing, artificial reseeding, and growing and maintaining feed reserves.

The "Widespread Application" approach is essentially one of training local farm leaders in the methods of applying conservation practices in accordance with land-use capabilities so that they in turn can assist others. Assistance by the Service under this program consists primarily of (a) developing lists of conservation practices for local areas, (b) preparing simple specifications for practice application and maintenance, and (c) holding training meetings and method demonstrations.

The revegetation of eroded areas to which conservation measures are applied in conservation districts is dependent to a considerable extent upon the maintenance of an adequate supply of suitable planting materials and upon the development of new propagation and cultural practices. The Service maintains thirty nursery units to produce or purchase plants and seeds, collect them from wild habitats for propagation, conduct observational studies to determine the best types of plants for specific planting site conditions, and search for new strains of plants and grasses which are exceptionally well suited for erosion control purposes.

Examples of Progress and Current Program: The progress being made toward attaining the objective under this appropriation, some of the recent accomplishments, and comments on certain phases of the Service program which are receiving increased emphasis at this time are presented under the applicable projects.

General: The million dollar reduction made in the "Operations" appropriation for 1944 came at a time when conservation districts were rapidly being organized. In order to mitigate the effect of this reduction on the soil and water conservation program, especially in districts, action was

taken when the appropriated funds were allocated, to absorb as much of the decrease as possible in the so-called "overhead" accounts. Studies were made to eliminate all but essential paper work, and wherever duplication of effort was found, steps were taken to correct it. Washington, Regional, and State Office supervisory employees redoubled their efforts to improve the efficiency of their staffs, and were instructed, after analysis of available work load data, to eliminate certain positions as they were vacated. As a result it was possible to absorb well over half of the reduction by decreasing the allocations for Washington, Regional, and State Office expenses. These efforts to hold overhead expenses at a minimum were continued in 1945 as evidenced by the allotment to direct field activities of 95.2 percent of the increase appropriated for this fiscal year.

In accordance with the specific direction of the Congress contained in the appropriation language for 1945, the project "Soil and Water Conservation Operations by Means of Demonstration Projects" was discontinued as of July 1, 1944. It is expected that the majority of the demonstration project areas which were active at the time this work was discontinued will be included in soil conservation districts before the end of the fiscal year 1945.

The following directive was contained in General Departmental Circular No. 39, dated May 4, 1944, issued by the Secretary and the War Food Administrator, which restated the "operational policies of the U. S. Department of Agriculture and the War Food Administration for making assistance available to farmers and ranchers in all phases of water development, use and disposal that are related to crop and livestock production and domestic requirements":

"1. The Soil Conservation Service will adjust its present functional organization to provide facilities for appropriate consideration of proposed activities and operations, together with related research, in the water conservation, utilization, and disposal fields and to make these facilities available to other agencies of the Department which have responsibilities for action activities in these fields. It will continue to make available and expand technical assistance to individual and groups of farmers and ranchers in helping to solve their water conservation, use, and disposal problems."

Accordingly, there has been established in the Washington Office and in each Regional Office a water conservation division. In Washington the division will eventually consist of a division chief, three technical section heads, and two secretaries. In each region the division will consist of a division chief and a secretary. It will be the responsibility of this new division to formulate and recommend general Service policies and standards in the field of planning for water control, including water conservation, use, and disposal; to cooperate with Federal, State,

and local agencies in the planning of the agricultural phases of major irrigation, drainage, and flood control undertakings; to give planning assistance and guidance to States, legal subdivisions thereof, and responsible action groups, in determining the need for and feasibility of the development and rehabilitation of small group irrigation and drainage facilities; to cooperate with other divisions of the Service in assisting soil conservation and other districts and responsible action groups to include appropriate activities in the field of water conservation, use, and disposal in their long-time conservation plans; and to otherwise take leadership in the field of water control.

Soil and water conservation operations in conservation districts and cooperation with other Federal and State agencies: This project is subdivided into the following two works projects:

Soil and water conservation operations in conservation districts: The work under this work project has been constantly directed toward securing adoption of soil and water conservation practices and principles of sound land-use by as many farmers and ranchers as possible. It is the Service's policy to discharge the responsibility for a national program of soil and water conservation and proper land-use, assigned to it by Congress, by assisting soil conservation districts to develop and carry out their locally-adapted conservation programs. This assistance includes the services of such skilled technicians as soil conservationists, soil scientists, engineers, agronomists, foresters, and conservation and engineering aides; the loan of special equipment of a kind not ordinarily readily available to owners and operators of farm lands within the various districts; and some conservation planting materials that are unobtainable or not available in adequate quantities in the regular trade channels.

During the past year requests by districts for assistance to farmers and ranchers in preparing conservation farming plans and applying soil and water conservation practices far exceeded that which could be made available. Many of the district governing bodies have stated that the number of requests from farmers for assistance in preparing and applying conservation farming plans were greater than they have ever been. In some instances, little or no farm planning assistance has been given districts. This is because the help being furnished the districts with which the Service is currently cooperating is below the minimum needed for an economical and effective attack on the individual farm and community conservation problems.

Forty-five States (all except Connecticut, Massachusetts, and New Hampshire), which include 99 percent of the farm land of the United States, have adopted soil conservation district laws. The map on page 252 shows the soil conservation districts established as of Dec. 15, 1944. The rate of district organization in 1944 was much greater than indicated by estimates made at the beginning of the fiscal year. It was anticipated that 1058 conservation districts would be organized by June 15, 1944, but actually 1114 were organized.

The following tabulations show the number of districts organized, the number expected to come into being during the current and the 1946 fiscal years, funds available for assistance to districts, the number of farms, acreage, and other pertinent data regarding districts and accomplishments:

(1) Number of Conservation Districts Organized

Date or Fiscal Year	:	Number of Conservation Districts Organized	:	No. Districts Organized on a District-year Basis	:	"District-Years of Assistance" for which Funds Provided/Requested
June 15, 1943	:	902	:		:	
1944	:		:	1,004	:	980
June 15, 1944	:	1,114	:		:	
1945	:		:	1,212	:	1,124
June 15, 1945	:	1,310	:		:	
1946	:		:	1,401	:	1,355
June 15, 1946	:	1,492	:		:	

The number of conservation districts indicated as organized is based upon certificates of organization being issued by the respective States. This is the time at which the Soil Conservation Service is generally requested, either by the governing body or by farmers who are assisting in organizing this body, to assist the districts in making reconnaissance surveys and in developing work plans and programs before Memoranda of Understanding with the Department and supplemental agreements with the Soil Conservation Service are signed. After that time, of course other assistance is furnished to farmers and ranchers through the districts.

(2) Funds Available for Assistance to Conservation Districts

Fiscal Year	:	Funds Appropriated or Requested	:	Average Amount Funds Provided per District- Year
1944	:	\$20,083,720	:	\$20,494
1945	:	25,490,840	:	22,679
1946	:	26,390,200	:	19,476
	:	(30,748,900) ^{1/}	:	(22,693) ^{1/}

^{1/} For purposes of this tabulation only, these 1946 figures include overtime pay of \$4,358,700 and \$3,217 respectively, in order to provide comparability with the amounts shown for 1944 and 1945.

The following is a list of the
 names of the persons who have
 been appointed to the various
 positions in the Department of
 Agriculture for the year 1900.

Director	William B. Hays	Chief Clerk	John W. Smith
Assistant Secretary	John W. Smith	Chief of Bureau of Plant Industry	Frederick W. Lusk
Chief of Bureau of Animal Industry	W. H. Henshaw	Chief of Bureau of Entomology and Plant Quarantine	Frederick W. Lusk
Chief of Bureau of Forestry	Frederick W. Lusk	Chief of Bureau of Reclamation	Frederick W. Lusk
Chief of Bureau of Land Management	Frederick W. Lusk	Chief of Bureau of Indian Affairs	Frederick W. Lusk
Chief of Bureau of Geographical Names	Frederick W. Lusk	Chief of Bureau of Census	Frederick W. Lusk
Chief of Bureau of Statistics	Frederick W. Lusk	Chief of Bureau of Census	Frederick W. Lusk
Chief of Bureau of Census	Frederick W. Lusk	Chief of Bureau of Census	Frederick W. Lusk
Chief of Bureau of Census	Frederick W. Lusk	Chief of Bureau of Census	Frederick W. Lusk
Chief of Bureau of Census	Frederick W. Lusk	Chief of Bureau of Census	Frederick W. Lusk

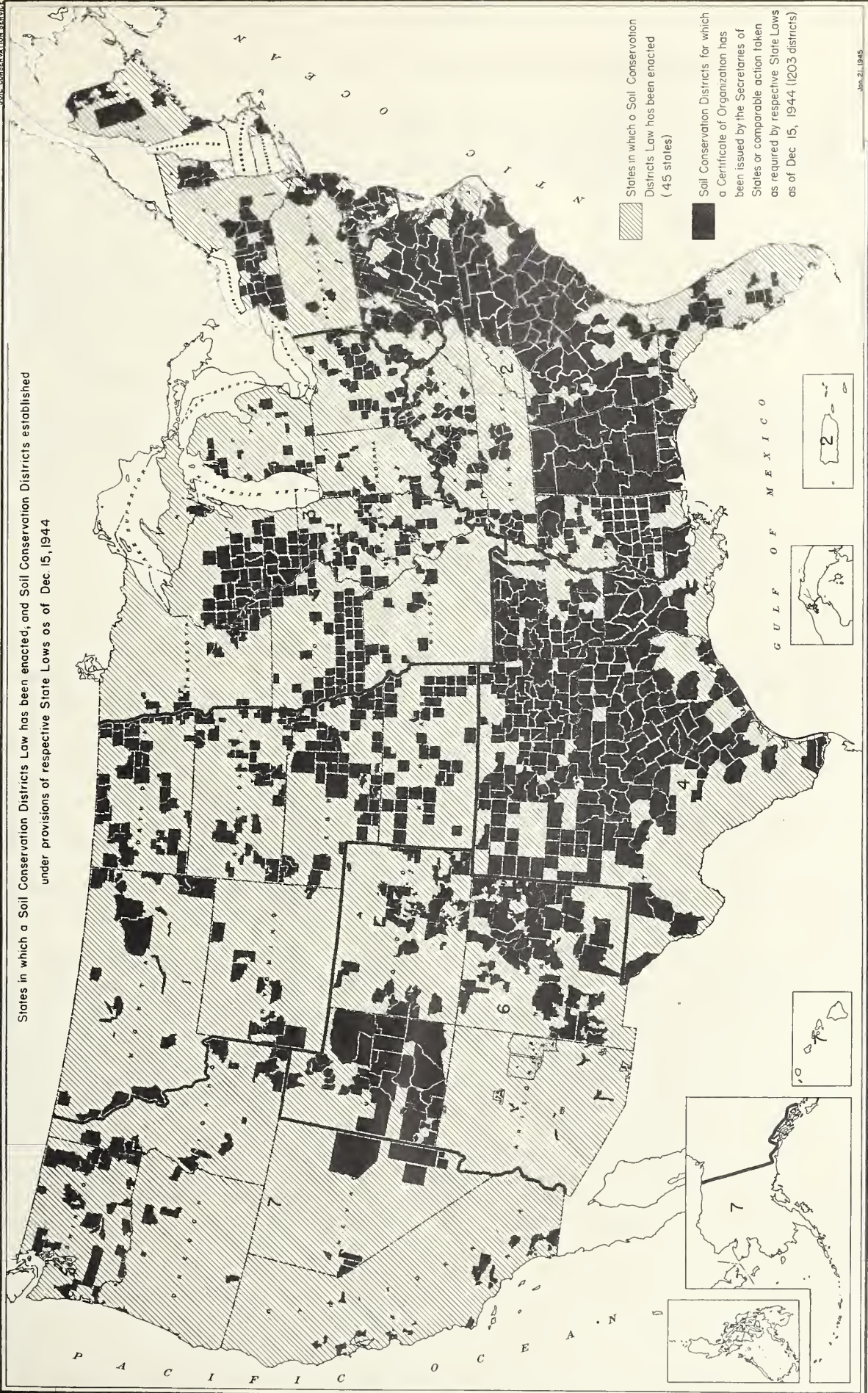
The following is a list of the
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 been appointed to the various
 positions in the Department of
 Agriculture for the year 1900.

DEPARTMENT OF AGRICULTURE

Director	William B. Hays	Chief Clerk	John W. Smith
Assistant Secretary	John W. Smith	Chief of Bureau of Plant Industry	Frederick W. Lusk
Chief of Bureau of Animal Industry	W. H. Henshaw	Chief of Bureau of Entomology and Plant Quarantine	Frederick W. Lusk
Chief of Bureau of Forestry	Frederick W. Lusk	Chief of Bureau of Reclamation	Frederick W. Lusk
Chief of Bureau of Land Management	Frederick W. Lusk	Chief of Bureau of Indian Affairs	Frederick W. Lusk
Chief of Bureau of Geographical Names	Frederick W. Lusk	Chief of Bureau of Census	Frederick W. Lusk
Chief of Bureau of Statistics	Frederick W. Lusk	Chief of Bureau of Census	Frederick W. Lusk
Chief of Bureau of Census	Frederick W. Lusk	Chief of Bureau of Census	Frederick W. Lusk
Chief of Bureau of Census	Frederick W. Lusk	Chief of Bureau of Census	Frederick W. Lusk
Chief of Bureau of Census	Frederick W. Lusk	Chief of Bureau of Census	Frederick W. Lusk

The following is a list of the
 names of the persons who have
 been appointed to the various
 positions in the Department of
 Agriculture for the year 1900.

States in which a Soil Conservation Districts Law has been enacted, and Soil Conservation Districts established under provisions of respective State Laws as of Dec. 15, 1944



States in which a Soil Conservation Districts Law has been enacted (45 states)

Soil Conservation Districts for which a Certificate of Organization has been issued by the Secretaries of States or comparable action taken as required by respective State Laws as of Dec. 15, 1944 (203 districts)

Dec. 21, 1945

Scale 1 inch = 100 miles
1:625,000
1:1,000,000



(3) Number of Farms and Acreage in Conservation Districts

Date	No. Districts Organized	Number Farms Included	Approx. Acres in Farms
<u>Actual</u>			
June 15, 1943	902	2,365,000	338,728,000
Average per district	-	2,622	375,530
June 15, 1944	1,114	2,870,000	418,458,000
Average per district	-	2,576	375,636
<u>Estimated</u>			
June 15, 1945	1,310	3,360,000	491,958,000
June 15, 1946	1,492	3,815,000	560,208,000

(4) "To Date" Accomplishments - June 30, 1944

Individual farm and ranch plans 228,036
 Acres planned 62,118,997
 Acres treated 31,444,046

During the fiscal year 1944, in assisting districts, Service technicians prepared 57,125 conservation farming plans covering 18,162,057 acres and assisted in establishing practices on 11,182,662 acres. The average cost to the Service of preparing farm plans in the fiscal year 1944 was approximately \$.41 per acre, and the cost of treating an acre was approximately \$1.01. The per-acre cost to the individual farmer averages two to three times the cost to the Service. The farmers furnish labor, equipment, material, and most of the planting stock, and in addition pay operations and replacement costs on the heavy equipment not available on their farms. More and more farmers are willing to meet their share of the expense and are requesting the assistance of soil conservation districts and the Service because they have learned that conservation farming pays dividends.

The beneficial effect of the conservation farming program is reflected in data secured from more than 9,000 cooperating farmers operating approximately 3,900,000 acres. These reports show that the average per-acre yields of major crops was increased 33.5 percent after the adoption of conservation farming plans, as compared to yields on these same farms before conservation practices were applied. The increased per-acre yields were secured by retiring steep and badly eroded acres --cropped more often than not, for a return below the cost of production-- from cultivation to permanent vegetation, and by treating the remaining good acres in accordance with their needs and dedicating them to the crops for which they were best suited in practical rotations. For example, the 9,000 district cooperators reported an increased production of 1,380,000

bushels of corn from 32,000 fewer acres. This was an increase of 22 percent in total bushels of corn produced from a decrease of 13 percent in the area of land in corn. Wheat production increased 26 percent from 11 percent fewer wheat acres. Equally significant increased per-acre yields are shown on many other crops, such as oats, barley, cotton, tobacco, and potatoes. Increases are likewise shown in livestock, poultry, and hog production.

During the past few years, due to the limited funds available and the rapidity with which conservation districts were organized, technical and other assistance rendered has been inadequate because it was necessary to spread it too thinly. With the special increase provided in the appropriation for 1945, more planning technicians and conservation aides are being made available per district in order to accelerate farm planning and the application of conservation practices. Additional funds were also provided specifically for the purchase of certain equipment such as crawler tractors, terracers, scrapers, etc., for loan and grant to conservation districts. This equipment will enable the newly organized districts and those older districts which have never received equipment to carry out better soil and water conservation and land-use programs. Conservation districts could effectively use much more equipment on conservation work if it can be made available. Available equipment is scheduled to farmer cooperators within the districts, on a fee basis, by the district governing bodies. Funds realized by the districts from such equipment rental are used to keep their equipment in repair and to accumulate funds to replace it when it becomes worn out.

During the fiscal year 1944, one or more conservation practices were established on 402,663 farms in conservation districts, and approximately 7,235,000 acres were treated as a result of the "Widespread Application of Conservation Practices" program. Service technicians held 10,630 training meetings at which 195,085 farmers and local leaders were in attendance. Local farm leaders in districts, who had been trained by Service technicians, held 16,213 recorded meetings at which 308,324 farmers and farm cooperators were present. There were 68,514 farmers who participated in, or received special on-the-job instructions at 18,227 method demonstrations held by technicians of the cooperating agencies and by local leaders trained by the technicians. This work has given great impetus to the National soil and water conservation program.

Cooperation with other Federal and State agencies: In order to employ every available means for encouraging adoption of soil and water conservation practices and to create a greater public consciousness of the erosion and land-use problems, close cooperation is being maintained with other Federal and State agencies concerned with conservation work and sound land-use.

There are, at the present time, 39 employees cooperatively employed with the Extension Service in 35 States and Puerto Rico. These men assist in the development of local conservation programs in cooperation with county

agents, assist in developing the educational material to be used in the "Widespread Application of Conservation Practices" program, and disseminate information regarding the general Service program to conservation districts and other State agencies which are cooperating to secure better land-use.

With the additional funds specifically provided therefor in the 1945 appropriation, the "Widespread Application of Conservation Practices" program is being expanded to cover all agricultural counties outside of legally organized soil conservation districts. The Service will implement the undertakings of the Extension Service in carrying on educational work in this same territory on the district approach as the most successful means of securing organized action for soil and water conservation and proper land-use. The plan is to assign various district conservationists additional work territory adjacent to the conservation districts which they are now serving, although in some places full-time "outside-district" assignments of technicians will be required. These employees will assist with the "Widespread Application" program, plan Extension conservation farming demonstrations, and inform farmer and rancher groups, through meetings and otherwise, of the beneficial effects to agriculture of the soil and water conservation program, and thus stimulate interest in the organization of soil conservation districts.

In 1944 there were 4,272 farms outside of conservation districts that applied one or more conservation practices on approximately 38,900 acres, as a result of the "Widespread Application" program. Service technicians, generally in cooperation with county agents, held 156 training meetings for local farm leaders at which 5,689 farmers and local leaders were present. These farm leaders in turn held 709 recorded meetings which were attended by 40,971 farmers and farm operators; 1,862 farmers participated in or received special on-the-job instructions at 361 method demonstrations.

The extreme importance to the western States of snow survey operations and related work resulted in an increase of \$75,000 in funds for this work in the 1945 "Operations" appropriation. This work had cost \$10,000 in 1944, but the limited extent of the work possible with these funds, coupled with the essential nature of the information, made it imperative to expand the surveys to additional important snowfall areas and to provide specialized technical guidance on related work such as the efficient use of available irrigation water, recommending flood control measures, and conservation of water supplies during drought periods. New snow courses are being located to provide adequate information on snow-water storage; shelter cabins are being constructed near isolated courses and stocked with emergency provisions, supplies, and equipment; and some additional personnel will be employed to make surveys. Other Federal, State, and local agencies and interested farmers and private organizations are cooperating in making these snow surveys by furnishing surveyors and certain facilities and equipment.

The Service will continue to make available to the armed services such assistance as can be rendered on erosion control, dust suppression, drainage, flood control, protection of water supplies from sedimentation, and similar protective and facilitating services on and near camp sites, air fields, and other military areas.

Operation of conservation nurseries for the furnishing of plants for use in soil and water conservation operations: Work in the conservation nurseries is divided into three general types of activity; observational studies, woody plant production, and seed production and collection. Beginning with the fiscal year 1943 there has been a steady adjustment made in the nursery program which has resulted in a substantial decrease in the production of woody planting materials and an increase in production of uncommon or improved grass and legume seed. In 1943, approximately 10 percent of nursery funds were spent for observational work, 70 percent for woody plant production and 20 percent on the seed program. In 1944 there was no change in the percentage of funds spent for observational work, but the expenditures for woody plant production had dropped to 46 percent and those for seed production and collection had increased to 44 percent. Approximately 60,000,000 woody plants were produced in 1944 as compared to 100,000,000 in 1943. Seed production and collection increased from 400,000 pounds in 1943 to 900,000 in 1944.

The Service has collected seed from many native stands of forage crop species to be used to revegetate lands needing reseeding. It has also encouraged cooperators to collect these seeds and to produce as much of their own farm requirements as possible. Technical assistance and the use of equipment have been furnished for this purpose. The improvement of pastures, hay meadows, and range land is of utmost importance to meet the demands of feed and forage for livestock. The productiveness of range and pasture lands can be increased through seeding of improved strains and varieties of grass and legume seed. As new and improved strains and varieties are developed by plant breeders of the Bureau of Plant Industry, Soils and Agricultural Engineering and the State Experiment Stations, they must be increased in quantity from a few ounces of improved seed to thousands of pounds so the seed can be supplied to farmers and ranchers as foundation stock. The Soil Conservation Service makes available the seed produced or collected by its nurseries to district cooperators who in turn use the seed to improve their pastures and grazing lands and also carry on the seed-increase program with the foundation stock given them.

(d) Conservation and Use of Agricultural Land Resources
(Allotment to Soil Conservation Service)

This budget schedule covers obligations in the fiscal years 1944 and 1945 for technical and related services and equipment under an allotment for assisting farmers in carrying out drainage and irrigation practices approved under the 1944 Agricultural Conservation Program.

(e) Erosion Control, Everglades Region, Florida

Appropriation Act, 1945	\$72,248
Budget estimate, 1946	<u>54,500</u>
Change for 1946:	
Overtime decrease	-8,376
Other decrease	<u>-9,372</u>
	<u>-17,748</u>

PROJECT STATEMENT

Project	1944	1945 :(estimated):	1946 :(estimated):	Increase or decrease
1. Soil conservation control:				
measures including research:				
and demonstrations in fire:				
control, drainage, and				
irrigation to eliminate				
fire hazards and subsidence				
in peat soils of the				
Florida Everglades area ..	\$69,194:	\$63,872:	\$54,500:	-\$9,372(1)
2. Overtime costs	9,082:	8,376:	- -:	-8,376
Unobligated balance	316:	- -:	- -:	- -
Total estimate or appro-				
priation	78,592:	72,248:	54,500:	-17,748

INCREASES OR DECREASES

The decrease of \$17,748 for 1946 consists of the \$8,376 decrease for over-
time, and

- (1) A decrease of \$9,372 due to the completion of the survey of geological
rock formations underlying the Everglades project area and to the par-
tial completion of the topographic surveys being made of the area.

WORK UNDER THIS APPROPRIATION

Objective: The work is concerned with the development, construction, and
demonstration of water control facilities and the establishment of
conservation farming methods for the purpose of reducing the fire
hazards and conserving the soil and water resources in the Everglades
region of Florida.

The Problem and Its Significance: The Everglades area of Florida consists
of approximately 2,700,000 acres of peat and muck land with an eleva-
tion of 10 to 16 feet above mean sea level. About 30 years ago,
drainage outlet canals were constructed and since then millions of
dollars have been spent to drain the area with little or no considera-
tion having been given to any factor except water disposal. It has
been found that uncontrolled drainage lowers the ground water table
in the area and has been conducive to excessive damage by fires and
even more serious soil deterioration through the slow oxidation of the
organic soils. Practically all of the cultivated muck land and a
considerable amount of the virgin peat land has subsided as much as six
feet since drainage work started. The seriousness of this loss of ele-
vation can be understood when it is realized that the elevation of the
land over most of the Everglades area which is suitable for agricultural
development is now but ten to sixteen feet above sea level.

The lowering of the ground surface of the Everglades has complicated drainage problems by reducing the capacity of the outlet ditches to such an extent that difficulty is being encountered in disposing of storm waters from some of the land already under cultivation, while during dry periods uncontrolled drainage has lowered the water table to such an extent that the peat soils tend to dry out and present a serious fire hazard. It is now realized that water control during the dry season of the year is as important to the agricultural development of the area as is drainage during the wet season of the year.

Approximately 125,000 acres located in the northern part of the Everglades is under cultivation. A large part of the area, however, is unsuited for agricultural development because of the depth and character of the peat and muck soil and the underlying strata; thus, before additional land is brought under cultivation, the areas suitable for cultivation should be determined and a sound method of water control should be developed that will permit satisfactory drainage, conserve the soil, and reduce fire hazards. Under existing pressure to expand food production, the area under cultivation is rapidly increasing. Experience has clearly shown the dangers to the natural resources and to the welfare of the landowners involved in such an expansion unless the program is given sound technical direction.

General Plan: There is a general realization on the part of landowners in the Everglades area that water control is essential to the sound development of the region and that a dependable program of expanding agricultural production and reducing fire hazards cannot be planned without the technical data being obtained under this project. The program includes the making of topographic and land-use capability surveys; construction of dykes, spillways, dams, and other water-control structures; studies of run-off, seepage, and evaporation; and development of water management and fire-prevention practices.

Federal expenditures are matched by at least equal expenditures for the same purpose by the State of Florida or political subdivisions thereof, thereby doubling the effectiveness of Federal expenditures.

Examples of Progress and Current Program: The field work in connection with the soil-capability survey has been completed, and a report on the work is in preparation. The data obtained make it possible to determine the boundaries of potential agricultural land and to segregate it from marginal agricultural land as well as from tracts which should be preserved in their natural state as wildlife and recreational areas. This information is important because of the current rapid expansion of agriculture in the region. The survey shows that less than half a million acres of the several million acres of muck land in the Everglades have soil characteristics suitable for long-time agricultural development.

An accurate control map of the Everglades area has been completed and good progress is being made with the topographic surveys of the area. Several thousand additional miles of transit and level lines are necessary to obtain topographic data in sufficient detail to permit development of plans for water control.

Studies are being made to develop ground-water control methods and to determine the effect of ground-water control upon the subsidence of muck soils, upon crop growth, and upon fire hazards. The feasibility of discharging excess water from cultivated tracts onto dyked undeveloped tracts in order to decrease the amount of water that must be handled by outlet canals is also being studied. A section of cultivated land has been dyked and a portable pump installed so that excess water can be pumped out and discharged onto an undeveloped area that has also been surrounded by a dyke to retain the water discharged to it. The object of this study is to determine whether the excess water can be disposed of by evaporation, transpiration, and percolation instead of requiring an outlet ditch for its disposal.

Two large evaporation tanks have been installed at the Everglades Experiment Station, and studies are under way to obtain data both on the evaporation from free water surface and the water loss from land with a native grass stand in order to determine the relationship between evaporation and transpiration under open glade conditions. It is also planned to dyke, ditch, and equip with pumps two experimental 10-acre tracts of muck land, one of which will be in an area underlain with a comparatively impervious rock, and the other in an area underlain with porous rock. Investigations will then be carried on to determine the feasibility of controlling the water table in areas underlain by porous rock, and to compare the cost of such operations with similar operations in tracts underlain with comparatively impervious rock.

(f) Farm and Other Private Forestry Cooperation
(Allotment to Soil Conservation Service)

This budget schedule covers obligations for the fiscal years 1944 and 1945 under an allotment from the appropriation "Farm and Other Private Forestry Cooperation", for cooperation with States in carrying out farm forestry demonstrations on representative groups of farms in order to encourage the conservation and development of the farm woodland as a productive unit and integral part of the farming business. The appropriation is discussed in its entirety in the notes under the heading "Farm and Other Private Forestry Cooperation" (See Forest Service).

(g) Flood Control, General (Transfer to Agriculture)
(Allotment to Soil Conservation Service)

This budget schedule covers obligations for the fiscal year 1944 under an allotment for preliminary flood control examinations and surveys. The obligations shown represent the cost of terminal leave due employees as of June 30, 1943 when work under this item was suspended.

(h) Special and Technical Investigations, International Joint Commission, United States and Great Britain
(Transfer to Soil Conservation Service)

This budget schedule covers obligations under a transfer from the State Department for special and technical investigations in cooperation with the International Joint Commission of the United States and Great Britain, in appraising the effect of ground-water conditions of lands adjacent to Kootenai Lake in Northern Idaho caused by operation of hydro-electric facilities in Canada. This is a service performed for the State Department to secure technical data required in connection with treaty obligations.

(i) Working Funds (Soil Conservation Service)

This budget schedule covers obligations under advances pursuant to Section 601 of the Economy Act of June 30, 1932, for technical and other services performed for the War Department and other Federal Agencies, as shown in detail in the Statement of Obligations under Supplemental Funds appearing at the end of the explanatory notes for the Soil Conservation Service.

(j) Land Utilization and Retirement of Submarginal Land

Appropriation Act, 1945	\$1,250,000
Budget estimate, 1946	<u>1,087,300</u>
Change for 1946:	
Overtime decrease	-162,700
No other change	<u>- -</u>
	<u>-162,700</u>

PROJECT STATEMENT

Project	1944	1945 :(estimated):	1946 :(estimated):	Increase or decrease
1. Acquisition of land ..	\$26,094	\$13,800	\$13,800	- -
2. Development and manage- ment of land acquired.	1,073,604	1,073,500	1,073,500	- -
3. Overtime costs	165,344	162,700	- -	-162,700
Unobligated balance	11,078	- -	- -	- -
Total estimate or appropriation	1,276,120	1,250,000	1,087,300	-162,700

DECREASE

- (1) Decrease of \$162,700 due to elimination from the 1946 estimates of the estimated fiscal year 1945 overtime cost.

WORK UNDER THIS APPROPRIATION

Objective: The work is concerned with the acquisition, development, and management of submarginal lands not primarily suitable for cultivation, in order to correct maladjustments in land-use, conserve soil and water resources, provide opportunities for farm families to obtain the essentials of life and health, and improve the general economy of rural communities.

The Problem and Its Significance: In many rural areas of the United States, a substantial amount of the acreage in cultivation or subject thereto, is unsuited for such use because of natural infertility, loss of productivity through misuse, location, or other physical factors. Continuance in cultivation of such land has resulted in further depletion of the soil, farm poverty, tax delinquency, excessive costs of local services such as schools and roads, and an increased relief load. The families which occupy submarginal farms are generally stranded in their present localities because of the lack of a market for their properties and insufficient financial resources to enable them to relocate elsewhere.

Solution of the human, land, and governmental problems in those areas where a substantial number of the farms are unsuited for cultivation can be brought about only by changes in land-use and occupancy. These adjustments are generally so far-reaching as to be beyond the ability of both individual families and local governments to bring about. The authority contained in Title III of the Bankhead-Jones Farm Tenant Act provides for making the necessary changes in land-use and occupancy, and the means whereby, through coordination of public programs and

cooperation of local governments, rehabilitation of land and people can be permanently effected.

The Soil Conservation Service is at the present time administering approximately 7,200,000 acres of government-owned land under the provisions of Title III of the Bankhead-Jones Farm Tenant Act. Approximately 6 1/4 million acres of the land which were acquired under the Land Utilization program are best suited for grazing or pasture; around 600,000 acres are adapted to forestry development and management, and the balance is suitable for cropping, hay production, recreation, and wildlife. About 1,100,000 acres of the land which was found suitable for grazing required specialized treatment in order to place it in productive use consistent with its capabilities. This treatment consisted of general soil stabilization activities and the establishment of a satisfactory vegetative cover through seedbed preparation, seeding, liming, fertilizing, and so forth.

The purpose of this program is to clear up complicated patterns of ownership and eliminate economically hopeless farm units through the purchase of submarginal lands and putting the tracts acquired to beneficial use in conjunction with adjacent private lands. The Land Utilization project land resources are made available to local farmers and ranchers for grazing, cropping, hay production, and timber harvest in order to furnish them with a basis for making a satisfactory living and make it possible for them to adopt conservation farming methods, diversify their crops, and shift to a less intensive use of their lands.

Forage production is extremely important at this time. The grazing and pasture lands on the Land Utilization projects contribute materially to increase the annual supply of beef, mutton, wool, and other animal products. Wartime demands for an increased supply of timber is also being met by controlled harvesting from the woodlands on the projects.

Much of the work under the Land Utilization program is necessarily demonstrational in character. It is intended that the work being done on the existing projects will help stimulate local interest and action in correcting maladjustments in the use of land and in establishing soil and water conservation practices adapted to land not suited for cultivation.

General Plan: The work consists of (1) making surveys of submarginal land areas to determine the tracts of land to be purchased, (2) appraising and purchasing land earmarked for acquisition, (3) developing, improving, and providing protective maintenance for land acquired, and (4) carrying on a constructive land management program designed to permit the maximum utilization of the land by local farmers and ranchers consistent with conservation principles for the purpose of establishing and maintaining a sound agricultural economy for the area and at the same time obtaining an equitable cash return to the Federal Government.

Generally operations plans provide that surveys be made of areas of land considered unsuited for cultivation to ascertain the land-use, economic, and other pertinent problems of the area and to determine which tracts must be purchased in order to permit solution of the problems. If funds are available to purchase the land marked for acquisition, the various tracts are appraised to determine their fair market value, options to purchase are obtained, title examinations and other legal proceedings are completed, and the purchases consummated. (The land purchase phase of this program has been deferred for the duration of the war.)

Plans for the development, improvement, and maintenance of land and facilities acquired are prepared and carried out as rapidly as available funds and physical factors will permit. This work consists of applying erosion control measures; establishing proper vegetative cover on abandoned crop land; seeding and otherwise improving land suitable for pastures and other grazing use; developing wells and springs; constructing stock watering facilities and fences; obliterating useless buildings and fences; tree planting; constructing roads, fire breaks and trails, lookout towers, and telephone lines; constructing some buildings and recreational facilities; and maintaining facilities in good repair.

The lands and facilities on the Land Utilization projects are made available to local farmers and ranchers at equitable rates and under specific use conditions. Use permits are granted for grazing, cutting hay, cropping, timber harvesting, and other purposes. Most recreational facilities are handled through concessionaires' contracts.

Other activities on the projects include patrolling and firefighting, and dissemination to users of the land of information on soil and water conservation practices and proper land-use.

Examples of Progress and Current Program: Examples of recent accomplishments and phases of the work on which special emphasis is being placed at this time are cited under the following projects:

Acquisition of land: General land purchases were discontinued for the duration of the war at the close of the 1942 fiscal year. Although most of the work in connection with land purchases in process at that time has been completed, as long as the Service administers Federal lands there will still be some necessary expenditures which are properly classified as land acquisition costs and thus come under this project.

The work involved in 1945 includes clearance of titles, including reservations in title; appraising, title examination, and recordings in connection with land exchanges; settling of claims from county tax officials; final closing title searches; payments to land-owners of funds which have been placed in the outstanding liabilities account of the General Accounting Office; and disposition of land purchase funds withheld from payment to blocked nationals.

Files covering records, legal documents, and correspondence on approximately 55,000 individual land purchase transactions are currently being maintained. The case history of each land purchase transaction is sent to the National Archives for permanent filing. Before submitting them for filing each case is reviewed and completed if any required documents are missing, and a physical check made of the map which shows the land acquired under the Land Utilization program.

Claims were received during the year for damages sustained to farm lands adjacent to Lake Carl Blackwell on the Central Oklahoma Land Utilization Project in Payne County, Oklahoma, by back-water during periods of high water level in the lake. Although no funds had been specifically requested for land purchase in the fiscal year 1944, it was determined to the best interests of the government to purchase three tracts of land involved and a flowage easement on a fourth, and thus eliminate further disputes.

No new land purchases are contemplated during the fiscal years 1945 and 1946.

Management and development of land acquired: Because of the reduced appropriations in the past several years, for improvement and management of the lands being administered under the Land Utilization program, activities under this project have had to be curtailed somewhat. Every effort has been made to keep management and maintenance costs as low as possible, and to direct maximum efforts and resources to doing the type of development work which was currently determined to be most essential to accomplish the purposes of the Land Utilization program and which would contribute most to the war effort.

Emphasis has thus far been placed on seeding and otherwise treating the idle and unproductive lands owned by the Government to bring them into production for grazing and pasture purposes. Maintenance work on previously-developed lands has been held to a minimum during the past three years. Structures such as fences, buildings, recreational facilities, stockwater ponds, dams, spillways, and telephone lines are gradually getting older and have required considerably more maintenance in the fiscal year 1945 to keep them serviceable and to prevent large losses in Government investment due to rapid deterioration or destruction which would occur if adequate maintenance were not provided. There is also the problem of the greatly increased war-time demands for timber from these lands which must be met. This has required that some time of the regular Land Utilization project personnel be diverted from improvement work to that of selecting and marking timber for cutting, supervising timber sales, and scaling the timber cut.

Since it will be necessary to utilize more funds for maintenance and timber harvest work during the fiscal year 1945 than in previous years, less land will be treated than was originally planned. It will be

possible to treat about 40,000 acres of formerly cultivated and run-down, low-producing pasture lands so that they may be placed in productive use as grazing areas or hay meadows. By the end of the current fiscal year there will still be approximately 375,000 acres, located in 27 livestock-producing States, requiring treatment to fit them for pasture and grazing purposes.

One area of land purchased in New York State which includes 6,000 acres that are suitable for pasture use and on which less than half of the planned improvements have been made is furnishing supplementary grazing for 1256 cattle, 83 horses, and 2100 sheep owned by nearly 150 dairy and livestock farmers in the surrounding area. Growing stock are usually placed in such pastures where they graze in common with stock owned by other operators. This project points the way to more beneficial use of large acreages of lands not suitable for crop production but which can be developed successfully for pasture use. It is also demonstrating how groups of farmers can cooperate in controlling and utilizing lands of this nature which are distant from their dairy and livestock farms.

Unimproved pasture in the area of the Cedar Creek Project in Missouri normally produces 15 to 20 pounds of meat per acre per year. On improved areas on this project, and on adjoining improved privately-owned lands, the meat production is averaging from 200 to 225 pounds per acre per year.

Some of the more important items of work completed under this project during the calendar year 1943 (amounts are comparable to fiscal year 1944) were the seeding of 107,506 acres of unproductive, formerly cultivated or abandoned crop land to perennial grasses and legumes; construction of 641 miles of fences; construction of 262 livestock watering facilities (125 dams, 40 springs, 59 dugouts, and 38 wells); construction of two fire lookout towers; construction or plowing of 2,387 miles of firebreaks; mowing and brushing of 25,656 acres and the construction of 24 miles of telephone lines.

The pasture and range improvements listed will provide for an additional 4,000 to 6,000 head of cattle for a six-month period each year.

There were 7,983 use permits issued to persons for grazing, cropping, hay cutting, harvesting forest products and miscellaneous uses. The 5,889,056 acres that were used for grazing produced 1,447,591 animal unit months of forage. Permits were issued for the growing of annual crops on 16,603 acres and the harvesting of hay on 21,954 acres. Timber products were harvested amounting to 13,861,169 bd. ft. of saw timber, 3,370 cords of pulpwood, 62,928 fence posts and 5,063 cords of fuel wood from the 354,544 acres of land managed for forestry purposes. Net revenue to the Government from the use of lands being administered under

the provisions of Title III of the Bankhead-Jones Farm Tenant Act amounted to \$451,000 for the calendar year 1943 and it is estimated that it will amount to \$524,500 for the calendar year 1944 and around \$510,000 for 1945. Of these amounts 25 per cent is payable, in lieu of taxes, to the counties in which the lands are located (see notes under item (1) below).

(k) National Industrial Recovery, Public Works Administration
(Allotment to Soil Conservation Service)

This budget schedule covers obligations in the fiscal year 1944 under an allotment for protective measures prior to suspending development work on the Crab Orchard Land Utilization Project at Carbondale, Illinois.

(1) Payments to Counties from Submarginal Land Program,
Farm Tenant Act (Permanent Appropriation)

This item covers obligations for the payment to counties of 25 percent of the net revenues received each calendar year from the use of lands administered by the Secretary under the provisions of Title III of the Bankhead-Jones Farm Tenant Act, approved July 22, 1937, as follows:

Calendar Year in which Revenue Received	Twenty-five per cent of Net Revenue		
	Appropriated	Estimated	Estimated
	for Fiscal Year 1944	for Fiscal Year 1945	for Fiscal Year 1946
1942	\$75,280		
1943		\$112,750	
1944		131,128	
1945			\$127,500
Total	75,280	243,878	127,500

(m) Excess Payments, Submarginal Land Program, Farm
Tenant Act (Permanent Appropriation)

This item covers obligations in the fiscal year 1944, for refunding unearned receipts which were collected for the use of lands held by the Secretary under Title III of the Farm Tenant Act, approved July 22, 1937.

STATEMENT OF OBLIGATIONS UNDER SUPPLEMENTAL FUNDS
(1944 and 1945 amounts include overtime costs)

Item	Obligations, 1944	Estimated obligations, 1945	Estimated obligations, 1946
<u>Cooperation with the American Republics (Transfer from State):</u>			
Training in soil conservation of trainees from other American Republics 1/.....	\$31,271	\$3,390	\$33,683
<u>Conservation and Use of Agricultural Land Resources (Allotment to Soil Conservation Service):</u>			
For assisting farmers in carrying out soil and water conservation practices approved under the 1944 Agricultural Program ,	218,518	50,000	-
<u>Farm and Other Private Forestry Cooperation (Allotment to Soil Conservation Service):</u>			
Cooperation with States in carrying out farm forestry operations, including intensive projects and technical service to farmers and to legally competent and adequate organizations of farmers	138,180	146,788	-
<u>Flood Control, General (Transfer to Agriculture) (Allotment to Soil Conservation Service):</u>			
Preliminary examinations and surveys	1,210	-	-
<u>Special and Technical Investigations, International Joint Commission, United States and Great Britain-(Transfer to Agriculture) (Soil Conservation Service):</u>			
Appraisal of results of increasing the height of ground-water table of lands adjacent to Kootenai Lake	1,432	1,750	1,500

1/ Budget schedule for this item appears under State Department section of the Budget, page 596.

Item	Obligations, 1944	Estimated obligations, 1945	Estimated obligations 1946
Working Funds, Agriculture (Soil Conservation Service) Advances from:			
Office of Coordinator of Inter-American Affairs: Comprehensive training of Latin American technicians in the principles and practices of soil and water conservation and proper land-use	\$25,806:	\$59:	- -
Federal Works Agency: Public Buildings Administration, providing wartime security for field cartographic laboratories:	33,105:	40,149:	- -
Public Roads Administration, furnishing of hydrologic information	1,444:	1,085:	- -
Total, Federal Works Agency	34,549:	41,234:	- -
Selective Service System:			
Technical direction of program for civilian public service projects for conscientious objectors	184,259:	190,045:	- -
State Department: Cooperation with the Chinese Government in the study of agricultural problems in China	5,653:	- -:	- -
War Department: Corps of Engineers, mapping of strategic areas	441,397:	51,861:	- -
Army Air Forces, research, compilation, drafting, and reproduction of aeronautical and flight charts	84,408:	220,158:	- -
Army Map Service, transliteration of Chinese maps	5,219:	2,213:	- -
Army Map Service, preparation and drafting of maps and charts of foreign areas	241,945:	3,292:	- -
Total, War Department	772,969:	277,524:	- -
Total, Working Funds	1,023,236:	508,862:	- -
National Industrial Recovery, Public Works Administration (Allotment to Agriculture) (Allotment to Soil Conservation Service): Completion of developments under way on various land utilization projects	4,655:	- -:	- -
Total, Obligations under Supplemental Funds	1,418,502:	710,790:	35,183

PASSENGER-CARRYING VEHICLES

There is included in the budget estimates for the Soil Conservation Service the sum of \$510,655 to provide for (1) the operation, maintenance, and repair of 1,576 passenger-carrying vehicles at a cost of \$390,655, and (2) the replacement of 150 of these vehicles, or approximately 10 percent of the total fleet, at a net cost of \$120,000 with estimated exchange allowances taken into consideration. No funds are requested for the purchase of additional passenger-carrying vehicles.

Of the total number of passenger cars owned and operated by the Soil Conservation Service, one vehicle is used for passenger transportation on official business in the District of Columbia. The remainder of the vehicles are used in the field to provide transportation for technicians to experimental plots, farms, and ranches in outlying areas which are not readily accessible to common carrier transportation. The activities of these technicians include assisting farmers and ranchers in the planning and application of soil and water conservation practices; the installation of experimental plots and equipment; collecting research data and servicing scientific instruments; and carrying out the work of developing, managing, and protecting land owned by the Government.

The Soil Conservation Service policy is and has been to conserve passenger-carrying equipment to the utmost by using it only for essential field research and operations activities in areas where other means of transportation are either inadequate or non-existent.

Should it become necessary to purchase used vehicles rather than new ones because of the unavailability of the latter, or should it be impossible to procure some of the vehicles intended for replacement of badly worn equipment, the funds requested would be needed for additional repair expense and to pay the cost of transportation by other methods. Also, if it should become necessary, it is planned to authorize the use of personally owned automobiles on a mileage reimbursement basis.

In 1940, a service policy was established which provided for trading in 20 percent of the total automotive fleet each year. The average age of each vehicle traded in, had it been possible to carry out this policy, would have been five years and the average mileage approximately 75,000 miles. Because of the war emergency, however, and the limited availability of cars, the service has been unable to carry out a program under this policy. The average age of the fleet, therefore, has increased materially. By July 1, 1945 it is estimated that 22 percent of the fleet will have been in operation nine years or more.

The 150 vehicles to be purchased in 1946 will replace an equal number of cars, all of which will be 1936 models or older and which will have an average mileage in excess of 90,000 miles.

PENALTY MAIL

Section 2, Public Law 364, 78th Congress
(Allotment to Soil Conservation Service)

	<u>Category 1</u>	<u>Category 2</u>	<u>Total</u>
1945	\$3,105	\$37,740	\$40,845
1946	<u>3,703</u>	<u>45,400</u>	<u>49,103</u>
Change	<u>+598</u>	<u>+7,660</u>	<u>+8,258</u>

Category 1 consists of technical leaflets, bulletins, and other material relating to the programs of the Soil Conservation Service. Approximately 30 percent is sent to educational and other institutions and organizations, 30 percent to State, county and municipal agencies, 30 percent to individual farmers, school teachers and students, and 10 percent to commercial organizations and agricultural groups. Material under this category is mailed only in response to specific requests.

Category 2 consists of correspondence necessary in conducting the business of the Soil Conservation Service, which is highly decentralized. About 75 percent consists of within-Government administrative work such as reports and forms relating to work program progress and accomplishment; reports and correspondence regarding the status of appropriations and miscellaneous funds; mailings incident to recruiting, hiring, and payment of salaries to personnel; correspondence and forms concerned with the purchase of and payment for supplies, materials, equipment, and so forth. The other 25 percent of mailings in this category consists of administrative correspondence between Soil Conservation Service offices and outside individuals and concerns.

Within-Service and inter-Departmental administrative work constitutes the bulk of the mailings of the Service. Because of the nature of its work, the Soil Conservation Service has decentralized its organization as much as possible. The greater part of the employees of the Service work out of field offices directly assisting farmers and ranchers to prepare and establish conservation farming plans. These estimates cover the estimated cost of mail to be dispatched during the fiscal year 1946 from the Washington Office, seven regional offices, forty-five State offices and approximately 2,550 field offices located in conservation districts, nurseries and research projects. Because of the close working relationships maintained with farmers, ranchers, soil conservation district supervisors, agricultural colleges, and other Federal and State agencies, and in connection with its purchasing and contracting work the Service must, of necessity, also conduct a substantial volume of mail with outside individuals, organizations, and business concerns.

The increase of \$8,258 for 1946 is based on the Budget increase of \$4,251,928 for soil conservation district work. It is estimated that approximately 200 new offices will be established in the fiscal year 1946 in order to assist newly organized soil conservation districts. These offices will require an increased volume of mail incidental to their establishment. The organization of new conservation districts will also require a proportionate increase in the volume of regular mail in State and regional offices due to the necessity of increasing mailing lists for official instructions, information, and reports, and for performing the normal administrative work mentioned under Category 2.

[illegible]

2. In a 1000 ft. long, 100 ft. wide, 10 ft. high rectangular tank, the water is 8 ft. deep. The tank is filled with water. The water is 8 ft. deep. The tank is filled with water.